The ILLINOIS Medical Journal

Official Journal of the Illinois State Medical Society

EDITOR — Harold M. Camp. EDITORIAL BOARD — James H. Hutton, Chairman, Frederick H. Falls, Josiah J. Moore, Edwin M. Miller, Chauncey C. Maher, Harry S. Gradle, Harry Culver, Walter Stevenson, Raymond W. McNealy.

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NEW PROCEDURE FOR SELECTING OUTSTANDING GENERAL PRACTITIONER

At the meeting of the House of Delegates of the American Medical Association in Chicago last June, a resolution was introduced by Edwin S. Hamilton of the Illinois delegation recommending a procedure for the selection of the outstanding general practitioner so that there would be one candidate from each of the several states and territorial possessions.

The resolution was adopted as presented, and each state medical society is asked to submit its nomination to the A.M.A. not later than November 15, to be considered at the St. Louis Interim Session November 30 to December 3.

Under this adopted plan

(1) Each county medical society shall be urged to name the candidate of its choice as the outstanding general practitioner for the year within its jurisdiction, basing its selection on nominations and recommendations from any responsible source, lay or professional.

(2) The name of each candidate so chosen by a county medical society, with all pertinent data, including recommendations of lay groups and individuals, shall be submitted by the county medical society to the state medical society of which it is a component part.

(3) Each state medical society through whatever agency each may designate, shall select from among the candidates submitted by its component county medical societies one name to be declared the outstanding general practitioner within the state.

(4) The candidate so selected at the state level shall be the sole candidate from that state, and his or her name, with all pertinent supporting data shall be submitted to the Board of Trustees of the American Medical Association.

(5) The Board of Trustees shall select from the names submitted by state societies, the names of three persons, these names to be submitted in turn to this House of Delegates, which shall select one name to be declared the outstanding general practitioner of the United States for the year.

(6) Any state medical society desiring to do so may establish and confer a suitable award with fitting public ceremony on the physician it has named as the outstanding general practitioner of that state for the year.

This information has been submitted to all county society secretaries in Illinois, and it is hoped that names of the candidates from the individual county levels will be submitted to the State Society Secretary's office not later than October 15.

THE INTERIM SESSION OF THE AMERICAN MEDICAL ASSOCIATION

The Interim Session of the American Medical Association will be held at St. Louis, November 30 to December 3, 1948. The first Interim Session was held in Cleveland last January when a full two day program was arranged for the general practitioner. This general plan is to be carried on in the future.

For many years the annual conference of State Society Secretaries and Editors has been held at the A.M.A. headquarters in Chicago during November. According to present plans, this annual conference will be held in St. Louis on Sunday and Monday, November 28 and 29.

Another interesting new feature which has been added for the Interim Session is the scheduling of the first national Medical Public Relations Conference under sponsorship of the A.M.A. A full day program will be presented on Saturday, November 27. With the ever increasing number of societies adding public relations counsels to their executive staffs, it seems quite important that these officials get together and establish definite projects which all societies can use in their public relations work. Many have commented during recent years on the apparent lack of uniformity in the prevailing ideas concerning medical public relations, and it is desirable for the public relations counsels to get together and discuss the subject.

The theme for this conference is "Shooting at Common Targets in Medical Public Relations." Conference plans are in the hands of Mr. Lawrence W. Rember, director of the A.M.A. public relations and executive assistant to the Secretary and General Manager.

Every state medical society now having a public relations counsel or proposing to add such an executive to its staff within coming months, will profit by sending representatives to this conference. Likewise chairmen of committees on public relations will be present and participate in the deliberations. During the afternoon session, six major social issues of general interest to the various state societies will be discussed thoroughly by members of the group.

Much is to be learned in the field of medical public relations; although there are problems of less importance in some states than in others, the projects must necessarily be developed to fit actual needs, and it will be of much value to all of the societies to have generally accepted procedures to follow in order to gain proper experience in determining the most desirable public relations programs of the future.

Those who have attended recent sessions of the A.M.A. House of Delegates realize the importance of a midyear session. This was clearly demonstrated at the session in Cleveland last January when the House had two full days of deliberation on many important subjects. Two full days are assigned for the St. Louis session again this year.

Scientific programs will be presented, and physicians attending the Interim Session will be well repaid for the time and effort expended in order to be among those present on this occasion.

HISTORY OF MEDICINE IN ILLINOIS

The Illinois State Medical Society Committee on Medical History has been holding regular meetings and has made various assignments in an effort to secure all possible historical data throughout the state. Under the chairmanship of James H. Hutton, the committee personnel is as follows: James H. Hutton, Chairman, 30 N. Michigan Avenue, Chicago, J. J. Moore, 55 E. Washington Street, Chicago, David J. Davis, 721 Elmwood Avenue, Wilmette, Charles P. Blair, Monmouth, D. D. Monroe, Alton, E. H. Weld, Rockford, Harold M. Camp, Monmouth, George H. Coleman, 122 S. Michigan Ave., Chicago, J. P. Simonds, 303 East Chicago Ave., Chicago.

Ex-officio: Percy E. Hopkins, President, 800 West 78th Street, Chicago, Harry M. Hedge, Chairman of the Council, 30 N. Michigan Ave., Chicago.

The Illinois State Medical Society published a "History of Medical Practice in Illinois" in 1927 which included historical information up to 1850. The Committee with Council approval, intends to produce the second volume beginning with 1850. Historical data is contained in the large collection of information now housed at the Illinois State Historical Library in Springfield. A lot of this material was originally collected by the late Carl E. Black of Jacksonville, and is entered at the library as the Carl E. Black-Illinois State Medical Society collection. Suitable filing cabinets have been purchased to store

the photographs in the collection, and they have all been catalogued properly. Biographic data accompanies each picture. Several thousand photographs of present members of this Society have been added to the collection during recent years, and as these are received from the official photographer, they are sent to the State Historical Library.

Each county medical society has been asked to name an historian, and replies have been received from most of the county societies. All types of information has been sent from the secretary's office to the historians to acquaint them with their duties so that this work can go forward quickly. These county historians are asked to get information relative to living physicians within their respective counties. They have been urged to confer with the elderly physicians who can add materially to the store of historical data now available.

The Woman's Auxiliary to the Illinois State Medical Society has been asked to aid in this important project. They have been delegated the responsibility of procuring information concerning former physicians, now deceased. Biographic forms have been printed and sent to both the county society historians and to each Auxiliary president. Sources of information are the libraries, newspaper offices where cumulative files of papers are available, county histories which were published in most Illinois counties from 1870 to 1900, and from the families of the physicians.

There are many valuable records in the homes of descendents of early Illinois physicians which should be sought in every county.

With the approval of the Council, Miss Ella Salmonsen, 6732 Newgard Avenue, Chicago 26, has been selected to act as the official compiler to receive this information which will be catalogued and used as the basis for the printed volume.

At a later date when more material is available and catalogued, efforts will be made to select an editor to assume responsibilty for writing the book. Illinois physicians or others having information which they believe will be of value to the Committee are urged to write to Dr. James H. Hutton as chairman of the committee, to Miss Salmonsen as compiler, or to the state society secretary's office in Monmouth.

The list of county society historians and the Woman's Auxiliary president is presented so that physicians anywhere in Illinois may know who is responsible in each county for procuring the desired biographic material.

COUNTY MEDICAL SOCIETY "HISTORIANS"

Adams County: — Dr. E. B. Montgomery, 134 North 8th Street, Quincy, Illinois
Alexander County:
Bond County: — Dr. Kate B. Luzader, East College Ave., Greenville
Boone County: — Dr. M. L. Hartman, 511 S. State Street, Belvidere, Illinois
Bureau County: — Dr. O. J. Flint of Princeton, Dr. C. C. Barrett of Princeton (2)
Carroll County: — Dr. J. B. Schreiter, First Natl. Bank Bldg., Savana
Cass County: — Dr. D. E. Haworth, 115 West 4th Street, Beardstown, Illinois
Champaign County: — Dr. James S. Mason, 129 W. Elm Street, Champaign, Illinois
Cook County: — Dr. J. P. Simonds, Chairman, 303 E. Chicago Avenue, Chicago, Illinois
Aux Plaines Branch: — Dr. Ellis Kerr, 715 Lake Street, Oak Park, Illinois
Calumet Branch: — Dr. E. D. Huntington, 10450 S. Prospect Ave., Chicago
Douglas Park Branch:
Englewood Branch: — Dr. Eugene F. Carey, 6856 S. Halsted St., Chicago
North Suburban Branch: — Dr. Dwight Clark, 636 Church Street, Evanston, Illinois
Irving Park Branch: — Dr. Ernst Hoffman, 4013 Milwaukee Ave., Chicago, Illinois
Jackson Park Branch: — Dr. Frank P. Hammond, 11 S. LaSalle St., Chicago 90, Illinois
North Shore Branch: — Dr. H. Kenneth Scatliff, 4753 Broadway, Chicago, Illinois
North Side Branch: — Dr. Chas. H. Parkes, 1910 N. Lincoln Ave., Chicago
Northwest Branch: — Dr. Chas. F. Stotz, 4408 Parker Ave., Chicago*
South Chicago Branch: — Dr. Hugh N. Mackechnie, 5805 S. Dorchester, Chicago, Illinois. Dr. W. J. Nixon Davis, 2636 East 75th Street, Chicago Illinois
South Side Branch:
Southern Cook County: — Dr. R. C. Aiken, First Natl. Bank, Blue Island
Stock Yards Branch: — Dr. Antony J. Bertash, 4826 S. Kimbark, Chicago, Illinois
West Side Branch: — Dr. Wade C. Harker, 4458 W. Madison St., Chicago
Christian County: — Dr. G. L. Armstrong, 302 East Market St., Tayorville, Illinois
Clark County: — Dr. L. J. Weir, Marshall, Illinois
Clay County: — Dr. N. W. Bowman, Flora, Illinois
Clinton County: — Dr. J. Q. Roane, First Natl. Bank, Carlyle

*Deceased

Coles-Cumberland County: — Dr. G. B. Dudley, Charleston, Illinois
Crawford County:
DeKalb County: — Dr. Clifford Smith, DeKalb, Illinois
Dewitt County: — Dr. W. R. Marshall, 115 N. Quincy Street, Clinton, Illinois
Douglas County: — Dr. J. H. Taylor, Villa Grove, Illinois
Du Page County: — Dr. M. F. Heidgen, Memorial Hospital, Elmhurst, Illinois
Edgar County: — Dr. Frank Link, 205 N. Central, Paris, Illinois
Edwards County: — Dr. R. L. Moter, Albion, Illinois
Effingham County: — Dr. Henry Taphorn, Effingham, Illinois
Fayette County: — Dr. Mark Greer, Fehren Building, Vandalia, Illinois
Ford County: — Dr. M. D. E. Peterson, Paxton, Ill.
Franklin County: — Dr. C. O. Lane, West Frankfort, Illinois
Fulton County: — Dr. W. E. Shallenberger, Canton, Illinois
Gallatin County: — Dr. W. F. Stanelle, Shawneetown, Illinois
Greene County: — Dr. Paul A. Daley, Carrollton, Illinois
Hancock County: — Dr. H. V. Prescott, Dallas City, Ill.
Hardin County:
Henderson County:
Henry County: — Dr. G. H. Hoffman, Kewanee, Illinois, Dr. John Wead, Wyoming, Illinois
Iroquois County:
Jackson County: — Dr. Wm. D. Mohlenbrock, 114 N. 14th St., Murphysboro, Illinois
Jasper County: — Dr. W. E. Franke, Newton, Illinois
Jefferson-Hamilton County:
Jersey County: — Dr. H. R. Bohannan, Jerseyville, Illinois
Jo Daviess County: — Dr. C. G. Buford, Elizabeth, Illinois
Johnson County: — Dr. C. D. Nobles, Anna St. Hospital, Anna
Kane County: — Dr. K. M. Manougian, Professional Bldg., Elgin, Illinois
Kankakee County:
Knox County: — Dr. E. N. Nash, Hill Arcade, Galesburg, Ill.
Lake County: — Dr. Theodore Proxmire, Lake Forest, Ill.
LaSalle County: — Dr. J. S. Geen, Utica, Illinois
Lawrence County: — Dr. E. Fahnestock, Bridgeport, Illinois
Lee County: — Dr. A. F. Moore, 115 Galena Ave., Dixon
Livingston County: — Dr. A. B. Middleton, Clermont, Florida
Logan County: — Dr. D. M. Barringer, Scully Bldg., Lincoln.
McDonough County: Dr.W. M. Hartman, Macomb, Ill.
McHenry County:
McLean County: — Dr. A. E. Livingston, 219 N. Main Street, Bloomington, Illinois
Macon County: — Dr. C. Martin Wood, 104 N. Water Street, Decatur, Illinois
Macoupin County: — Dr. Joseph J. Grandone, 105½ W. Chestnut, Gillespie, Illinois
Madison County: — Dr. D. D. Monroe, Alton
Marion County: — Dr. H. L. Logan, Salem, Illinois
Mason County:
Massac County: — Dr. W. S. Dixon, 6th & Market, Metropolis
Menard County: — Dr. H. K. Moulton, 119 N. Main Street, Petersburg, Illinois
Mercer County: — Dr. V. A. McClanahan, Aledo, Illinois
Monroe County: — Dr. E. H. Schaller, Waterloo, Illinois
Montgomery County: — Dr. L. G. Allen, 400 Monroe, Litchfield
Morgan County: — Dr. C. Ellsworth Black, 203 Farmers Bank, Jacksonville, Illinois
Moultrie County: — Dr. J. F. Lawson, Sullivan, Illinois
Ogle County: — Dr. W. E. Kittler, Rochelle, Illinois
Peoria County: — Dr. Rolland L. Green, Central Natl. Bank, Peoria, Illinois
Perry County: — Dr. Clarence F. Kelly, DuQuoin, Illinois
Piatt County: — Dr. W. N. Sievers, White Heath, Illinois
Pike County: Dr. James H. Rutledge, Pittsfield
Pope County:
Pulaski County: — Dr. Otis T. Hudson, Mounds, Illinois
Randolph: — Dr. W. W. Fullerton, Steeleville, Ill.
Richland County: — Dr. A. T. Telford, Historian, Olney
Send communications to: — Dr. Richard Birnbaum, Olney, (secretary)
Rock Island County: — Dr. Paul P. Youngberg, 1630 Fifth Avenue, Moline, Illinois
St. Clair County: — Dr. C. F. Leonard, 3004 Linden, East St. Louis, Illinois
Saline County:
Sangamon County: — Dr. Herman H. Cole, Myers, Bldg., Springfield
Schuyler County: — Dr. C. M. Fleming, Rushville, Illinois
Shelby County: — Dr. J. C. Westervelt, Shelbyville, Ill.
Stephenson County: — Dr. J. S. Clark, 507 2nd Natl. Bank Bldg., Freeport, Illinois
Tazewell County: — Dr. Sam. Glasford, Pekin, Illinois

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MEDICAL ECONOMICS

The Medical Economics Committee. Chauncey C. Maher, Chmn., Hubert L. Allen, Emmet B. Bay, Edwin F. Baker, Carroll Birch, Thomas C. Browning, Roland R. Cross, James Graham, George Halperin, Edwin S. Hamilton, Ford K. Hick, Edwin F. Hirsch, May McDonald Milligan, Marie Wessels, Walter M. Whitaker, Holland Williamson.

Pre-Marital Tests and Marriage Counseling

Physicians have accepted responsibility in so many fields of education involving preventive medicine that their responsibility in education for marriage should thererfore be unquestioned.

Since pre-marital examinations for venereal disease are required in Illinois for marriage licenses, both the man and woman must visit a doctor, clinic, or laboratory for tests. This visit affords the physician an excellent opportunity to offer pre-marital advice, particularly in sex education. If the blood and smear are taken by a technician or nurse, or if they are obtained in a hurried or routine manner, the opportunity for pre-marital education may be lost.

The suffering caused by destructive human relationships in general, and in marriage particularly, is probably as great as that caused by germs and physical malfunctions. The rising divorce rate, the number of broken homes, certain aspects of delinquency, the incidence of abortions, alcoholism, and many other appalling developments are terrifying evidence of maladjustments in either physical or emotional relationships. Psychiatrists and psychosomatic medicine testify to similar truths.

Examination for fitness is an accepted procedure for most occupations. But there is no law requiring that people prove their fitness for marriage and parenthood, perhaps the most important human relationships in our society. Examination for venereal disease before marriage is one important step in preventive medicine but physicians have further social responsibility in education for marriage. The family is the basic unit in our society. If the members of these units are personally well adjusted in most aspects of their relationship they will be an asset to any community, and to society in general.

Doctors, educators, the clergy, and social workers share the responsibility for expanding the field of education for marriage. Many colleges and universities do offer marriage courses. In these courses various aspects of marriage relationship are discussed, economic, social, religious, sexual, and individual attitudes. These obviously are important, for marriage can fail

because of personal maladjustment or character defects. Since, however, marriage is a friendship plus a sex relationship, it can also fail because of sex maladjustment. Unfortunately, the majority of those contemplating marriage do not have access to this help.

It is in education in the sex aspect of the marriage relationship that the physician can be most helpful. Every physician knows the frequency of failure of adjustment in the sex side of marriage. In most instances the maladjustment is due to ignorance, misinformation, clumsy techniques, conflicts, anxieties, or ill-advised contraception. In most instances, also, the tragedy lies in the fact that these difficulties could have been prevented.

The majority of young couples, men as well as women, enter marriage beset with fears and anxieties because of ignorance, taboos, inhibitions, and often guilty feelings regarding sex. For many reasons, economic, social, and health, they want knowledge concerning contraception. Of all human relationships, the sex relationship should be free from a fear component, whether it be fear of inadequacy, injury, guilt, or an unwanted pregnancy. The ideal preparation for marriage is sex education beginning in infancy; lacking this, competent pre-marital advice can avert many a broken life. To wait for advice and guidance until long after marriage, when the patterns of sex conduct are set and the inevitable tragedies like frigidity, impotency, and resentments are entrenched, is sheer neglect of the physician's responsibility.

Most young men and women who go to the doctor for pre-marital tests are eager for help. A hurried, impersonal, or repressed attitude on the part of the physician may discourage questions. Pre-marital couples who have understanding guidance — often in spite of early sex mis-education — enter marriage with a greater sense of security and freedom from most conflicts and fears. If at the pre-marital conference with their physician they have encountered an understanding attitude they will feel free to return should difficulties arise later in their marriage.

Obviously the physician's personal attitude toward sex will largely determine the success or failure of his counsel. Factual information about the physiology of sex relationship and contraception is important, but attitudes and understanding are more important. Unfortunately, emotional integration and proper sex attitude are not taught in most medical schools. If, because of disinterest, or personal conflict, the examining physician feels he cannot or does not wish to give such an interview he can at least accept responsibility by referring the patients to books and pamphlets on the subject, or by sending them to some other physician who is an expert in this field.

Pre-marital counsel will not solve all the ills of marriage but education in sex attitudes, factual information regarding sex relationship in marriage, and knowledge of contraception, will aid greatly in preventing many of the tragedies of sex unhappiness. In establishing the foundation for happier and more lasting marriages, the physician performs a service in the field of education and preventive medicine, and also makes a civic contribution toward the betterment of our society.—M. W.

VOLUNTARY HOSPITALS WORTHY OF SUPPORT

It should be agreed that the voluntary hospital, which concerns itself not only with the care of the sick but also with the training of personnel, the conduct of research and the prevention of disease, is worthy of the increasing and continuing support of everyone in the community who is in a position to give financial assistance.

From the point of view of the patient served, the medical profession should exercise good judgment in limiting admission to patients who are actually in need of "in-bed" care. To hospitalize a person because he is a member of Blue Cross, or even because he can afford to pay for service, is uneconomic, unsound, and particularly unwise in that it deprives someone in more urgent need of the opportunity for medical or surgical treatment.—*New England Journal of Medicine.*

STATE DEPARTMENT OF PUBLIC HEALTH

Disasters Without Disease

Tornadoes and floods which devastated several communities in Illinois during April focused public and professional attention on the importance of coordinating the efforts of private and public health agencies to minimize disease on such occasions.

To this end, the midwestern area of the American Red Cross sponsored a State Disaster Meeting in the Illinois State Armory in Springfield on April 28. Major General Leo M. Boyle, Adjutant General and Coordinator of the State's Emergency Disaster Plan, represented the several departments of Illinois state government in his speech, "Responsibilities and Resources of State Government in Time of Disaster."

This meeting was attended by the sheriffs, mayors, chiefs of police, fire chiefs, and other interested local officials. The purpose of the meeting was to learn about each other's job in order to assure more effective operation when disaster strikes. We all recognize and appreciate the great help which local physicians and the American Red Cross give in time of disaster. In the following account we shall point out only the disaster health services of your State Department of Public Health.

Local Public Health Departments. Among official public health organizations, the fulltime county or city health department, if one exists, constitutes the first line of defense against disease in a disaster. When there is no local health department; when the resources of the local department have been exhausted; or when it is foreseen that its resources are inadequate, requests for assistance are made to the State Department of Public Health in Springfield.

Health officers, public health nurses and sanitary engineers from local health departments promptly enter the area when disaster strikes. They appraise the public health problems and the need for service. They utilize their stocks of vaccines, serums, and blood plasma to prevent the spread of disease and to aid the injured.

State District Health Departments. The personnel of the fourteen District Health Offices of the State Department of Public Health also function in disaster areas where city and county health departments are lacking or where supple-

mentary service is needed. They serve large areas where there are no local health departments. The same on-the-spot services are given as are described above.

The Director of the State Department of Public Health is then promptly notified of: (1) the extent and nature of the disaster; (2) the imminent and anticipated needs for assistance from Springfield; (3) the need for additional physicians, nurses and sanitary engineers; (4) the sanitary conditions which require correction by personnel from the Springfield offices; (5) the need for additional serums, vaccines and blood plasma; (6) the need for informative pamphlets, posters, syringes or sanitation equipment; (7) the existence or threat of epidemics; and (8) the general health situation relative to safe water supplies and the disposal of human wastes.

Physicians. The local physicians, of course, are immediately on the spot in disasters to give aid to the injured and to immunize against disease. The personnel of local and State District Health Departments do all they can to help physicians in their fight against death and disease.

Nursing Services. The public health nurses from local and State District Health Departments rush to the disaster area as soon as possible and cooperate with the local Red Cross nurses in providing immediate nursing service. Public health nurses assist in first aid emergencies; they assist the physicians in caring for the injured; they get in touch with the hospitals in the area and offer their help; they assist in giving immunizations against disease; and they assist in getting more nurses into the area. The public health nurse, in her visits to homes in disaster areas, is able to check on medical needs, the care of babies and pregnant women, and the care of the sick.

Sanitation. The sanitary engineers of local and State District Health offices also enter the disaster area as soon as possible to help correct any unsanitary conditions. They appraise the situation from a sanitation view-point as to the need for additional engineers or equipment. They check public water supplies and assist local water plant operators in maintaining safe water. They condemn wells until they can be rendered safe for use by chlorination. They check the means for disposing human wastes to see that they are sanitary. If a dairy is involved in a disaster, they check the plant to insure the production of safe milk.

Drugs and Biologicals. Drugs and biologicals, which the State Health Department distributes free-of-charge to physicians and hospitals through its District Health Offices and through city and county health departments, prevent the spread of disease and infection during disasters. They are typhoid vaccine, tetanus antitoxin, diphtheria toxoid and antitoxin, and immune serum for measles.

In time of disaster when a community's water supply becomes impure, there is always danger that typhoid fever may develop. Even if the water supply is chlorinated, in many disasters it is important that citizens be immunized against typhoid fever as a double check on controlling this disease.

Another dangerous infection which is apt to develop in disasters is tetanus. Since the spores of this disease live in the soil, they are liable to enter wounds or cuts in the skin. Physicians usually find it necessary to give tetanus antitoxin to injured disaster victims.

Cases of communicable diseases are usually isolated in homes. When homes are destroyed or rendered uninhabitable, persons with communicable diseases are often brought in temporary contact with well persons. This is frequently true of measles. Protective serum against measles is supplied for children who need such protection. If diphtheria appears among the disaster victims, diphtheria antitoxin and toxoid are made available for protection and treatment.

Dried blood plasma, which has been collected by the American Red Cross, is available for distribution through the State Health Department. Plasma is furnished to hospitals, physicians and local health departments. In time of disaster, the prompt administration of plasma may save a life.

Know Your Health Officer. Physicians may consult with and seek assistance from Public Health Officers. Before disaster strikes, or regardless of disasters, it is well to learn the name of the Health Officer who serves your area. It will be to your mutual advantage to make his acquaintance if you have not done so already.

CORRESPONDENCE

GRADUATE COURSE IN ENDOCRINOLOGY

The American College of Physicians will sponsor a postgraduate course in endocrinology at the La Salle Hotel, Chicago, November 1-6. Tuition fee for members will be $30 and for non-members $60. Leading teachers from all over the country will take part in the course, of which Dr. Willard O. Thompson, Chicago, is Director. All applications to participate in this activity should be sent to Mr. E. R. Loveland, executive secretary, American College of Physicians, 4200 Pine Street, Philadelphia 4.

SILIFORM AMPULS POTENTIALLY DANGEROUS

Druggists and the medical profession were urged today by the Federal Security Agency's Food and Drug Administration to return all stocks of Siliform Ampuls to the manufacturer, The Heilkraft Medical Company, Boston, Mass. This injection drug, which should be sterile, is potentially dangerous since samples collected on the market contain living organisms. Siliform is injected by some physicians and osteopaths in the belief that it will relieve patients suffering with rheumatism as claimed by the manufacturer. The Food and Drug Administration found the contaminated samples after a routine inspection at the Heilkraft factory disclosed that the Siliform Ampuls had been manufactured without sterilization. Intensive recall efforts by the manufacturer and the Food and Drug Administration for the past two weeks have not brought in all of the contaminated stocks. The article, which moves slowly, was shipped to 37 states from Maine to California and later was redistributed by wholesalers who cannot trace many of their sales. Some going back as far as 1946 have been found on the market. These ampuls may be in the hands of doctors, hospitals, clinics, and retail and wholesale druggists.

CHEST PHYSICIANS ELECT OFFICERS

Dr. Minas Joannides, Chicago, Illinois, was elected treasurer of the American College of Chest Physicians at the 14th annual meeting of the College held in Chicago, June 17-20.

Dr. Robert K. Campbell, Springfield, Illinois, was re-elected chairman of the board of governors of the College and Dr. Paul H. Holinger, Chicago, Illinois, was appointed chairman of the committee on scientific program for the next annual meeting of the College.

The following physicians in Illinois were admitted to Fellowship in the College in the class of 1948 and received their Fellowship Certificates: Doctors Albert H. Andrews,

Chicago, Johann Bornstein, Chicago, J. Edmond Bryant, Evanston, E. J. DesAutels, Hines, Kenneth C. Johnston, Chicago, William S. Klein, Chicago, S. A. Levinson, Chicago, Saul A. Mackler, Chicago, Henry C. Sweany, Chicago, Italo F. Volini, Chicago, Clarence L. Wheaton, Chicago.

Fifty-two candidates took their oral and written examinations for Fellowship in the College on June 17, at the annual meeting.

INVITATION TO MICHIGAN'S ANNUAL MEETING

Doctors of medicine from Illinois are cordially invited to attend the 1948 Annual Session and Postgraduate Conference of the Michigan State Medical Society which will be help in Detroit at the Book-Cadillac Hotel September 22-23-24.

The program of scientific sessions in the fields of medicine and surgery will feature many of the outstanding physicians and surgeons in the United States. Among the 31 guest essayists are: F. H. Lahey, M.D., Boston, Mass., Waltman Walters, M.D., Rochester, Minn., R. W. TeLinde, M.D., Baltimore, Md., Haven Emerson, M.D., New York, N. Y., L. H. Dragstedt, M.D., Chicago, Ill., Alexander Brunschwig, M.D., New York, N. Y., and S. P. Reimann, M.D., Philadelphia, Pa.

To insure hotel accommodations for the Session write E. C. Texter, M.D., Chairman of Housing Committee, 1005 Stroh Bldg., Detroit, Michigan.

DIRECTOR FOR MENTAL HYGIENE SECTION SOUGHT

We would greatly appreciate your making an announcement in your various appropriate publications of the fact that there is a vacancy in the Chicago Department of Public Health for Director of its Mental Hygiene Section.

The Mental Hygiene Section will assume responsibility for developing and implementing a mental health educational program for the City. The position offers a real challenge and a great opportunity for pioneering work in the community mental hygiene program on a public health basis. The Board of Health is prepared to offer $10,000 per annum for this position.

Lewis J. Pollock, M. D.
Chairman, Advisory Committee
on Mental Health Program
Chicago Board of Health

NAVAL AIR RESERVES NEEDS DOCTORS

The Naval Air Reserve Training Command needs doctors. Doctors who served in the Navy during the past war and who still hold reserve commissions are requested to apply for two-weeks annual training duty or up to five months extended duty at Naval Air Stations, is was announced this week by Rear Admiral Richard F. Whitehead, USN, Chief of Naval Air Reserve Training.

Naval Reserve Medical Officers who can possibly spare the time, are urged to apply for this duty to help alleviate the work-load at those stations which are under-manned. Applications are made via the Commanding Officer of the Air Station to the Commandant of the Naval District concerned. The following Naval Air Stations need assistance: NAS Akron, NAS Atlanta, NAS Columbus, NAS Dallas, NAS Denver, NAS Glenview, NAS Grosse Ile, NAS Los Alamitos, NAS Memphis, NAS Miami, NAS Minneapolis, NAS New Orleans, NAS New York, NAS Oakland, NAS Olathe, NAS Squantum, NAS St. Louis, NAS Willow Grove, NAResTraUnit, Anacostia, D.C., NAResTraUnit, Jacksonville, NAResTraUnit, Norfolk, NAResTraUnit, Seattle, NAResTraUnit, Lakehurst.

ACTIVE DUTY BILLETS

The shortage of Medical Officers in the Naval Air Reserve Training Command has at all times been acute. In general, billets for two Medical Officers of the Naval Reserve of the rank of Comdr. and Lieut. are authorized (with privilege of waiver of rank) on full time active duty.

Medical Officers who request active duty for one year or more are eligible for additional pay of $100.00 per month over and above regular pay.

Officers qualified in aviation medicine are especially desired. However, Medical Officers on active duty can apply for the five-month course at the School of Aviation Medicine at Pensacola, Fla., eventually leading to the designation: Naval Flight Surgeon.

Quarters are available at some stations and Medical Officers in the Naval Air Reserve cannot be transferred without consent.

Naval Reserve Medical Officers who are desirous of this duty or wish to obtain further in-

formation should write to: Staff Medical Officer, Naval Air Reserve Training Command, Glenview, Illinois.

Woman's Auxiliary

PRESIDENT'S MESSAGE 1948-1949

The Woman's Auxiliary to the Illinois State Medical Society has entered into a new year with high aims and limitless possiblities for service to the medical profession and to the various communities. Our responsibilities are ever increasing; we must meet the challenge in order to bring to a successful finish the problems before us.

The Medical Society has this year assigned a major project for the Auxiliary to undertake. They have asked us to assume the responsibility of collecting biographical data concerning all deceased doctors and doctors who once practiced in the various counties, but have moved elsewhere. This information is to be used in compiling a history of the Medical Society in Illinois. As your President, I am asking that this activity be placed at the head of your program for the year. We must not, we will not, fail in this most important task. If we are successful in gathering the material needed we will be again honored by being asked by the Medical Society to help record the source of the material.

As in former years we must continue to be informed members in the fields of medical legislation and public relations. Our contribution to the benevolence fund has been a source of satisfaction and this year we hope to reach a higher figure than has ever been reached before. Active interest should be continued in health education, in its many phases. Hygeia plays an important part in many of the auxiliary activities and will always be one of its major concerns. An increase in membership should be stressed throughout the state. The auxiliary has had a steady growth since its beginning, yet much can be accomplished toward greater expansion of the organization.

Let us be faithful and loyal to our objectives and ideals. Through close cooperation we shall reach the heights of endeavor in our auxiliary undertakings. May the year be a successful and happy one for all of you. I pledge to you complete support at all times.

Mrs. L. N. Hamm, President

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FEVER THERAPY MAKES PENICILLIN MORE USEFUL AGAINST SYPHILIS

Artificially produce fever increases the effectiveness of the seven and a half day penicillin treatment for syphilis to more than 80 per cent, a substantial improvement over both penicillin alone and pencillin and mapharsen in combination for the same length of time.

This valuable use of fever therapy is described by Herman N. Bundesen, M.D., president of the Chicago Board of Health, and a group of four doctors who assisted him, in an article which appears in the July 31 issue of The Journal of the American Medical Association.

Three of the doctors — George X. Schwemlein, research associate at the Kettering Foundation for Medical Research, Cincinnati, Ohio; Theodore J. Bauer, senior surgeon of the United States Public Health Service and venereal disease control officer, Chicago, Ill., and Robert M. Craig of Dayton, Ohio — together with Dr. Bundesen, pioneered the penicillin and penicillin-mapharsen treatments for syphilis.

In comparison with the 80 per cent effectiveness of penicillin and fever therapy in seven and one half days their tests show penicillin 70 per cent effective and penicillin given with mapharsen, a compound of arsenic, 49 per cent effective against syphilis in seven and one half days.

The fourth physician in the research group is Jack Rodriquez, medical director of the Chicago Intensive Treatment Center, Chicago, Ill., where the group tested the fever and penicillin method from January 4 through July 29, 1945.

Each patient was given an injection of sodium penicillin every three hours for 60 doses, plus three 3 hour sessions of artificial fever on alternate days, beginning 23 hours after the penicillin was started.

Fever therapy, however, does not cut down on the time required for penicillin treatment, the doctors found. When they gave patients the same amount of penicillin — 1,200,000 units — in about 30 hours and reduced the fever therapy to one six-hour session, the treatment was effective in only about 60 per cent.

Neither is giving large amounts of penicillin without fever therapy more effective, the article indicates, citing research not yet completed. When patients were given 25,000,000 units of penicillin in 24 hours during this research, the drug was about 65 per cent effective.

In all, the doctors treated 120 patients under the penicillin-fever method, including 64 who were in the secondary stage of syphilis and nine whose blood tests did not show the disease. Eleven of the group did not finish treatment — eight because of lack of cooperation with the doctors, two because of cardiovascular fatigue during the period of fever therapy, and one because of uncontrollable fever. All syphilitic lesions healed immediately after treatment, although no more quickly than with penicillin alone, the doctors comment.

No serious reactions were noticed by the doctors. Sixty-four of the 100 patients whose blood tests were positive for syphilis achieved negative blood tests. In 16 of the 109 patients who completed the seven and a half days, the treatment failed — that is, their blood test were considered significantly positive by the doctors.

Two of these 16 had relapses of primary syphilis and five had relapses of secondary syphilis. In five the primary stage of the disease progressed to the secondary, and four who had achieved negative blood tests again had positive ones 12 months afterward.

ORIGINAL ARTICLES

Propyl Thiouracil in The Management of Complicated Hyperthyroidism

George M. Curtis, M.D., Arthur C. Connor, M.D. and Roy E. Swenson, M.D.
Columbus, Ohio

Clinical experience, leading to an evaluation of thiouracil and its allies has now been extensive. Numerous contributions have been made concerning their mode of action, the specific indications for their use in the treatment of hyperthyroidism as well as the clinical end-results obtained[1,2,3,4]. To date relatively less has been investigated and concluded concerning the newer and less toxic propyl thiouracil[3,4,5,6,7,8,9,10].

Interest in this latter goitrogen is greater because of its lower toxicity as well as the lesser amount required to produce metabolism-depressing effects. Moreover, the profession is becoming more informed concerning the therapeutic use of the various goitrogenic drugs.

At present propyl thiouracil is regarded as indicated in the management of certain groups of hyperthyroid patients. Its greatest advantage is found in the treatment of those who are regarded as poor surgical risks. This group (A) includes the severely toxic, the thyrocachetic, the aged, as well as those with disabling cardiovascular disease or with other serious concomitant illness[4,7,8,9]. Preparation with propyl thiouracil provides a sufficient length of time in which treatment, rest and recovery may take place before the indicated surgery. In those who do not improve sufficiently, continuation of propyl thiouracil medication is usually possible.

A second group (B) consists of those patients with hyperthyroidism recurring after previous surgery who for some reason actively refuse

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another thyroidectomy. Proponents of the use of propyl thiouracil for all cases of recurrent hyperthyroidism reason that further surgery should be withheld unless it becomes imperative owing to the increased risk of recurrent laryngeal nerve injury with resultant vocal cord paralysis or of parathyroid injury with resultant disabling hypoparathyroidism [7,8]. For this group propyl thiouracil provides a substitute form of long-term therapy.

A third group (C) consists of those for whom treatment with iodine is unsatisfactory because they are "refractory" to its usual administration or show hypersensitivity. For these patients propyl thiouracil may be used as a slower acting substitute.

The following patients are presented as representative of each of the three group indications adopted in our clinic for the preoperative use of propyi thiouracil. The first patient presented diffuse hyperplastic goiter with hyperthyroidism of long standing, complicated by severe cardiovascular disease with impending cardiac failure; the second presented recurrent nodular goiter with hyperthyroidism for which the patient refused surgery; and the third had diffuse hyperplastic goiter with hyperthyroidism complicated by an unusual sensitivity to iodine.

L.C. (No. 475414), a white housewife of 61 was admitted to the University Hospital on June 19, 1947. She complained of nervousness, dull headaches, exertional dyspnea, palpitation which was increased on exertion, recent weight loss, weakness and profuse sweating. About a year previously these symptoms had been severe enough to send her to her physician. Examination at that time disclosed a blood pressure of 190/100, pulse 110, a negative urine and a basal metabolic rate of plus 25. Initially there had been a notably good response to medical management which consisted of lugolization, digitalis and the use of sedatives. During the past month, however, her condition had grown progressively worse.

Physical examination on entrance revealed a temperature of 98.6, a pulse of 120, respirations 20 and a blood pressure of 140/80, all measured under basal conditions. She was a thin, elderly woman with a worried look and an obvious tremor. She was dyspneic. Her thyroid was diffusely and evenly enlarged. There was lobulation but no definitely palpable nodules. Her heart revealed no evidence of valvular lesion yet presented a moderate enlargment; a loud, functional, apical systolic murmur and an occasional extrasystole. The lungs were clear. The liver was palpable and tender and there was a mild pre-tibial edema. In addition there was also moderate arteriosclerosis.

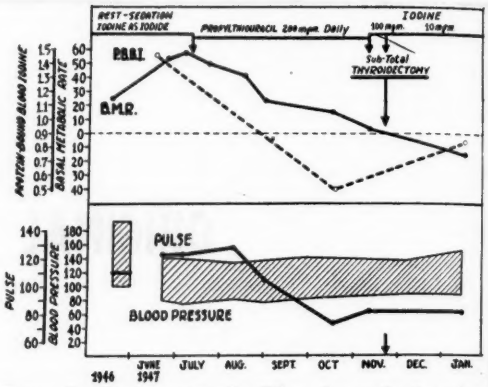

Figure 1. The response in diffuse hyperplastic goiter with hyperthyroidism complicated by congestive heart failure.

Laboratory examination revealed a basal metabolic rate of plus 51. The protein-bound blood iodine was 1.44 mcg. per cent, which is definitely elevated over normal. No casts or red blood cells were seen on urinalysis. An EKG revealed a sinus tachycardia and evidence of myocardial damage. The RBC were 4.22, the hemoglobin 13.4 and the WBC 6000. The differential count revealed 56 per cent neutrophils, 42 per cent lymphocytes and 2 per cent eosinophil cells.

Initially, the patient was placed on 100 mgm. of iodine daily, administered as potassium iodide; together with 600 mgm. calcium, 400 mgm. phosphorus and 2,500 units of vitamin D daily, supplied as four Calirad Wafers.* A high protein, high caloric low fat diet was provided. In addition, a regimen of rest together with adequate sedation was maintained. Nevertheless, after three weeks of management she had not improved sufficiently to permit thyroidectomy without what was regarded as a definitely increased risk. Consequently, the more time-consuming preoperative preparation with propyl thiouracil was instituted.

Beginning July 10, 200 mgm. daily of "Probacil"† were given (50 mg. q.i.d.). The BMR fell from plus 58 on July 7 to plus 6 on November 6, which is at the rate of 0.43 units per day. The protein-bound blood iodine decreased from 1.44 mcg.% to 0.50 mcg.%, which is well below the normal range (Figure 1). The patient definitely improved. Her anxious look and dyspnea disappeared; the tremor and increased perspiration decreased; the pulse became regular and declined to an average 82. The apical systolic murmur gradually disappeared. The pre-tibial edema subsided and the liver was no longer palpable or tender.

During September a transitory granulocytopenia was observed. This was asymptomatic and disappeared within two weeks without any alteration in the therapy. The lowest count obtained was one of 2700 leucocytes,

*The Winthrop Chemical Company kindly supplied these for our clinical studies.

†The Lederle Company kindly supplied this for our clinical studies.

with 864 granulocytes, 1728 lymphocytes and 88 monocytes.

During September and October it was noted that her goiter had increased moderately in size and had developed an audible bruit and palpable thrill. On November 6, propyl thiouracil was discontinued and she was given 100 mgm. of iodine as potassium iodide daily, together with 600 mgm. calcium, 400 mgm. phosphorus and 2500 units of vitamin D in the form of four Calirad Wafers, daily.

On November 25, a subtotal thyroidectomy was accomplished without incident. Nevertheless, her goiter was quite vascular and there was considerably more oozing than is ordinarily encountered after our usual method of preparation. Moreover, the gland was softer and more friable. Ninety-eight grams of thyroid tissue were removed. This was largely diffusely hyperplastic; however, revealed some well advanced nodule formation. Microscopic sections showed a well involuted gland with moderate residual hyperplasia and evidence of early nodule formation.

The postoperative course was uneventful and she remained for six weeks on 10 mgm. of iodine daily, given as an "oridine" tablet. During this period she noted a progressive decrease in her nervousness and improved steadily. She experienced dyspnea and palpitation only after climbing stairs. Six weeks postoperative, January 15, her temperature was 97.6, pulse 71, respirations 17, blood pressure 140/80 and BMR minus 18. The protein-bound blood iodine was 0.84 mcg. per cent which is average normal. No residual tremor was observed. The operative site was well healed. Her pulse was regular. The heart was still slightly enlarged but revealed no murmur. She appeared greatly improved.

Thus is presented an example of the first (A) of our group indications for the use of propyl thiouracil in the treatment of complicated hyperthyroidism. Our usual more rapid preoperative preparation; using iodine; calcium, phosporus and vitamin D was not sufficient adequately to prepare this patient for a safe thyroidectomy. Moreover, her cardiovascular system needed added time for rest and recuperation. These were made possible by the administration of propyl thiouracil. Some years ago, before the advent of the goitrogens, this patient would ordinarily have been treated by some temporizing procedure such as superior pole ligation, hemithyroidectomy or even by radiation therapy. Later, and when she was regarded as adequately prepared, the thyroidectomy would have been completed. In the management of these complicated cases propyl thiouracil now gives us a simpler, safer and more certain control of the hyperthyroidism preparatory to the eventual thyroidectomy.

The second patient illustrates the expedient use of propyl thiouracil in the medical management of recurrent nodular goiter with hyperthyroidism complicated by arteriosclerotic heart disease and a psychological inbalance with the refusal of further surgery.

A.T. (K.H. Clinic), a white man of 57 was first seen on June 3, 1947. He complained of frequent angina of about a year's duration, as well as nervousness, vertigo, palpitation and headache of about two months' duration. Before this he had a fairly extensive surgical history starting with a submucous resection in 1933, a T and A in 1934, a herniorrhaphy in 1938 and ending with a two-stage thyroidectomy, elsewhere in 1946. Before the thyroidectomy his BMR had reached plus 52. This had never returned to normal postoperatively; the lowest of several postoperative determinations was plus 26.

The patient was small, tense, and thin. He blinked his eyes frequently, held his lips tightly pursed and stammered whenever he started to speak. In addition, he never quite seemed willing to accept the fact that he was ill and should have further treatment. Examination revealed a normal temperature, a pulse of 96, a respiratory rate of 20 and a blood pressure of 130/70, all measured under basal conditions. There was marked tremor. There was a palpable nodule of the anterior margin of the left lobe. Moderate arteriosclerosis was seen in the fundi and felt in the peripheral arteries. The heart was normal to physical examination. The lungs were clear, the prostate gland was tender due to a chronic prostatitis. The legs showed no edema.

Laboratory examination revealed a BMR of plus 26. The protein-bound blood iodine was increased to 2.28 mcg. per cent (normal values range from 0.7 to 1.1 mcg. per cent). A few leucocytes were found in the urine. An electrocardiogram was normal.

Initially the patient was placed on iodine; calcium, phosphorus and vitamin D medication. This was supplied as 20 drops of Lugol's solution and four Calirad Wafers daily. This totals 150 mgm. iodine, 600 mgm. calcium, 400 mgm. phosphorus and 2500 units of vitamin D. He was instructed to take a high protein, high caloric and low fat diet. In addition he was advised a regimen of reduced activity and given mild sedation. The BMR fell to plus 19 in two weeks and the protein-bound blood iodine to 1.02 mcg. per cent, with a subsequent decline of the BMR to plus 6 during the next two weeks (Figure 2).

Despite the excellent reponse of his hyperthyroidism to our usual preoperative preparation he noted but little symptomatic improvement. It was concluded that the status of his cardiovascular system did not make surgery advisable at that time. In addition, the patient made it clear that he was firmly opposed to further surgery. Consequently, medical management was undertaken and he was placed on propyl thiouracil June 20, 1947.

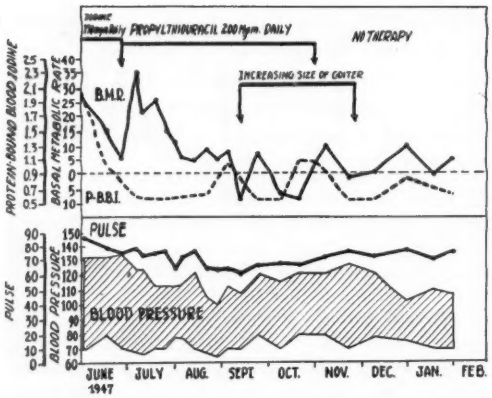

Figure 2. The response in recurrent nodular goiter complicated by arteriosclerotic heart disease. The patient refused further surgery.

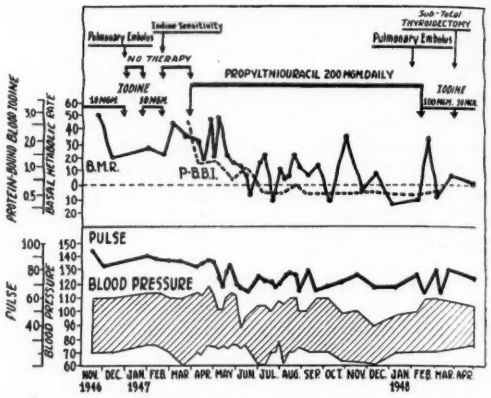

Figure 3. The response in diffuse hyperplastic goiter with hyperthyroidism complicated by unusual iodine sensitivity (iodism).

Under propyl thiouracil (50 mgm. q.i.d.) together with phenobarbital his symptoms improverd rapidly. There was an initial rise of the BMR, yet the protein-bound blood iodine remained low. Enlargement of the nodule in the anterior portion of the remaining left lobe was noted in September. In October a death in his family brought about a return of his angina, palpitation, dyspnea, headache and nervousness. However, this was accompanied by no return of his tremor, no rise of the BMR nor of the protein-bound blood iodine.

In November he attributed the return of his symptoms to the propyl thiouracil and discontinued it of his own accord. No change was noted. Three months later he began to note "spots before his eyes" which became increasingly disturbing to him. These were caused by opacities in the vitreous. No abnormality other than moderate arteriosclerosis was noted in the fundus. The etiology of his scotomata has remained obscure. It was not regarded as due to any medication. Thiouracil, a closely related drug, is largely excreted in less than 48 hours (11). During the subsequent three months without medication the BMR remained within normal limits, as well as the protein-bound blood iodine. He was regarded as in a period of prolonged remission. The patient's course to date is displayed graphically in Figure 2.

This history demonstrates three facts of clinical significance. *First,* the protein-bound blood iodine is a more reliable index of thyroid activity than the BMR (12). In this instance it enabled differentiation of his hyperthyroidism from the hypermetabolism traceable to his unstable emotions. He was disturbed about the prospect of further surgery when first treated in the clinic. This caused the rise in his BMR during July and August. Later rises correlated well with the frequency and severity of his angina. It is to be noted in Figure 2 that the protein-bound blood iodine did not rise beyond its normal range during these periods.

Second, changes in the level of the protein-bound blood iodine usually precede similar changes in the basal metabolic rate (see other accompanying figures). That is, the protein-bound blood iodine appears to be more of a moment to moment report on the state of the patient's thyroid activity, whereas the BMR tends to lag and be a delayed report. This information permits the surgeon to know at an earlier date that his hyperthyroid patient is ready for thyroidectomy. But what is more important is that a sharp rise in the protein-bound blood iodine occurring during preoperative lugolization may prove to be significant. Despite the fact that the BMR might still be falling, the patient is breaking away from iodine control and the BMR will rise shortly. This might detract from the chances of a smooth postoperative recovery.

Third, recurrent hyperthyroidism may be controlled by propyl thiouracil despite the handicap of concomitant organic disease and psychological imbalance. The usual rapid preparation with iodine; calcium, phosphorous and vitamin D was sufficient to bring this patient's hyperthyroidism under control. However, what was needed was some means of controlling the hyperthyroidism over a long period of time. Propyl thiouracil was used and has produced a prolonged remission.

The third patient illustrates the use of propyl thiouracil in the surgical preparation of primary hyperthyroidism complicated by an unusual sensitivity to iodine (Figure 3).

E.M. (No. 482582), a white assistant manager of 44 was first seen at the clinic on December 3, 1946. He complained of nervousness and tremor of several years' duration. Six months previously he developed a diarrhea during which he noted the onset of dyspnea, palpitation on exertion and an increase in his nervousness and tremor. On August 27, 1946 he had a hemorrhoidectomy. His convalescence was interrupted by a virus pneumonia and the development of thrombophlebitis of the right leg. This was followed by considerable increase of his nervousness, tremor, dyspnea and palpitation. In November his BMR was plus 50.

Physical examination revealed a temperature of 98.2, a pulse of 95, respirations 17 and a blood pressure of 110/70, all measured under basal conditions. The patient was a well developed, vigorous man with a ruddy complexion, and appeared younger than his years. His tremor was so extreme that it interfered with his actions. He was alert, intelligent and very cooperative but also extremely apprehensive. Exophthalmometry readings were 17 mm. bitlaterally, which is within normal limits. The thyroid was diffusely enlarged to about three times normal size, the right lobe being larger than the left. No nodules were palpable. The heart and lungs presented no physical abnormality. His right thigh was 1.5 inches greater in circumference than his left, and his right calf 1 inch greater. No tenderness was noted in Scarpa's triangle and Homan's sign was negative.

Laboratory examination revealed 5,130,000 RBC, a hemoglobin of 13.8 and a total leucocyte count of 6,350; 70 per cent being polymorphonuclear leucocytes. The BMR was plus 51 and the initial protein-bound blood iodine was 3.72 mcg. per cent which is greatly elevated, the normal limits being between 0.7 and 1.1 mcg. per cent. The urine revealed no abnormalities.

Initially he was placed on 10 mgm. of iodine daily in the form of "oridine" and 300 mgm. of calcium, 200 mgm. of phosphorus and 1250 units of vitamin D as two Calirad Wafers daily. He improved rapidly on this regimen. However, on December 31 he experienced an embolus with resultant left lung infarction for which he was hospitalized and treated by his family physician. He was referred back to the clinic on January 23, 1947. There was no indication of recurrence of his right femoral thrombosis. Therapy of his hyperthyroidism had been discontinued, consequently his symptoms had increased in severity. Iodinization was reinstituted. However, on February 15, 1947 the patient developed an extensive maculopapular eruption over the face and neck. This was accompanied by conjunctival injection and rhinorrhea, together with burning of the eyes, lacrimation and some photophobia. In addition he developed a diarrhea. These symptoms all subsided and gradually disappeared within two weeks after the iodine (10 mgm. daily) was discontinued.

Upon cessation of iodine medication the patient's tremor, nervousness, dyspnea and palpitation again increased. Consequently, it was concluded that the treatment of choice was propyl thiouracil and on March 29 this was begun. He was maintained on 200 mgm. per day (50 mgm. q.i.d.). The BMR fell from a level of plus 33 on March 15 to a minus 6 on June 20th. This is at a rate of about 0.43 units per day. The protein-bound blood iodine declined from 3.72 mcg. per cent to 0.50 mcg. per cent. During this period his symptoms subsided and he felt quite well. No depression of his white count was observed and there were no allergic reactions to the propyl thiouracil. January 27, 1948 he experienced another small pulmonary embolus. This das not as severe and required no hospitalization. There was no evidence of reactivation of his femoral thrombophlebitis.

February 12, propyl thiouracil was discontinued and he was placed on 100 mgm. of iodine, 300 mgm. of calcium, 200 mgm. of phosphorus and 1250 units of vitamin D daily. This time no sensitivity to iodine was noted. He was admitted to the University Hospital March 8 for thyroidectomy, however, developed an upper respiratory infection and surgery was postponed until April 1.

Thyroidectomy was accomplished uneventfully. The gland was soft, friable and unusually vascular. The goiter removed weighed 42 grams. There was diffuse enlargement. The right lobe was a little larger than the left. No nodules were present. Microscopic section showed well involuted alveoli, with moderate evidence of residual hyperplasia. His postoperative course was entirely uneventful. He has been maintained on 10 mgm. of iodine daily since, without any evidence of further iodism.

Four weeks postoperatively he revealed no nervousness, nor dyspnea and palpitation on exertion. There was no residual tremor. His temperature was 97.4, pulse 74, respirations 8 and blood pressure 104/76 under basal conditions. The BMR was plus 1. His incision healed well. His entire course is displayed graphically in Figure 3.

This illustrates the use of propyl thiouracil in severe primary hyperthyroidism complicated by an unusual sensitivity to iodine (iodism). Due to his threatening response iodine could not be used with security and propyl thiouracil provided an alternate form of therapy. It is interesting to note, however, that when iodine was eventually used to involute the gland preoperatively, no sensitivity reappeared.

This presents again the value of the protein-bound blood iodine in differentiating hyperthyroidism from hypermetabolism. The protein-bound blood iodine better mirrors the clinical picture and follows the general trend of the entire curve of the basal metabolic rates. The protein-bound blood iodine does not correspond

with the sporadic peaks in the basal metabolic rate which would appear to be, in reality, determinations of hypermetabolism in an apprehensive individual. This illustrates the value of propyl thiouracil as an alternate to the usual preoperative preparation of patients with hyperthyroidism.

Three cases of hyperthyroidism have been presented. Each is representative of one of the three group indications adopted in our clinic for the preoperative use of propyl thiouracil. Our first case presented diffuse hyperplastic goiter complicated by impending cardiac failure; the second, recurrent hyperthyroidism in which the patient refused surgical methods, and the third, a primary hyperthyroidism the management of which was complicated by iodine sensitivity. Each is illustrative of an indication for the use of propyl thiouracil. In the first patient, complicated by impending cardiac failure it provided the long time-interval of control during which the cardiovascular system recovered to the point that surgery could be performed without undue risk. For the patient who refused surgery it provided a remission of his hyperthyroidism. In the third case, complicated by an unusual sensitivity to iodine it provided an alternate form of preoperative therapy.

We are of the opinion that propyl thiouracil as used with judgment in the management of these three groups of patients provides an important adjunct in the treatment of hyperthyroidism.

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DISCUSSION

Frank H. Lahey, M.D., Boston, Massachusetts: Dr. Curtis's work with thyroid disease has paralleled ours and has been so sound that I could not disagree or be able to add anything to this excellent demonstration of the fundamental principles involved in managing thyroid disease. It was excellent for him to present to you the basic factors which give you a clear conception of some of the new principles and make it possible for you not to go off on a tangent with some of them.

I particularly wish to bring to you another method which has not been published but which is very useful in connection with interpreting some of the elevated metabolic rates which are so obviously false ones. Studies on protein bound iodine, in Dr. Curtis's laboratory or in any laboratory such as he and we conduct for investigative purposes, are excellent but they are time-consuming and expensive, and for you who do not have a blood iodine study laboratory it is valuable to have another method by which you can correct these dubiously elevated metabolic rates. Dr. Bartels, of our medical department, has found in patients with a known normal metabolic rate that he can give them pentothal and not change their metabolism. In the apprehensive patient who is badly adjusted to the test and in whom almost invariably there will be a falsely elevated metabolic rate, this method is valuable. They can be put to sleep to overcome these features. If they have hyperthyroidism their basal rates will remain elevated; if they do not have hyperthyroidism and their rates are falsely elevated, they will come to normal under the sleep produced by pentothal. I present this to you as another method of testing the patient in whom you believe the metabolism is not a true elevation from hyperthyroidism. Because pentothal requires precautions regarding laryngeal spasm I suggest you do not employ the method until you have read the article and can employ the necessary precautions against this complication.

The Surgical Aspects Of Placenta Previa

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In considering the surgical aspects of any subject in medicine one must logically begin with the surgical anatomy. The surgical anatomy in placenta previa varies with the type of placenta previa in the patient under consideration. We may possibly best understand the condition if we review the pathogenesis of placenta previa.

The ovum entering the uterine cavity through the uterine end of the tube finds itself in the blastodermic vesicle stage of development and seeking entry into the decidua vera as it is carried downward toward the internal os of the cervic uteri. If it attaches a few centimeters above this point and the development of the placenta begins, the lower margin of the fully developed placenta will reach nearly to the internal os (placenta previa marginalis). If it implants within a centimeter of the internal os it will spread to involve the os (placenta previa lateralis), whereas if it implants at the internal os it will expand to occupy both sides of the uterus and give rise to a central placenta previa. From the point of implantation villi invade the decidua in the form of chorion frondosum and fastening villi extend to the muscularis of the uterus, in these cases the lower uterine segment.

It is necessary in this connection to remember the physiological role played by this portion of the uterine muscle wall during late pregnancy and labor. As pregnancy advances the lower uterine segment becomes thinner and stretches out to accommodate the growing fetus and in most cases the largest part of the fetus, the head. During labor it stretches still further. It has very little contractible power but acts as a passive passage way for the expulsion of the fetus by the dynamic contractile upper uterine segment.

Another most important consideration to be taken into account is the tremendous increase in vascularity of that part of the lower uterine segment involved by the placental site. This gives rise to a softness and suculence of the thinned out muscle tissue which interferes seriously with its contractile power which even under normal conditions are deficient because of the mentioned thinning and stretching.

Another important consideration is the position of the uterine artery and its branches in relation to the lower uterine segment. The main artery approaches the uterus from the side through the cardinal ligament at the level of the internal os of the cervix. When it reaches the side wall of the uterus it turns sharply upward practically on the surface of the lower uterine segment and between the leaves of the broad ligaments. In addition the cervical branch of the uterine artery also enters the cervix at about the same level and it too may be damaged by deep lacerations of the cervix. It will be seen therefore that a tear in the lower uterine segment in this type of case is fraught with special danger of hemorrhage because of these anatomical considerations. Antepartum hemorrhage is due usually to separation of the lower part of the placenta or to tears attendant upon injudicious attempts at manual dilatation of the cervix or delivery of the fetus forcibly by version or forceps before complete dilatation of the cervix. Postpartum hemorrhage may be secondary to cervical and lower uterine segment lacerations or to uterine atony especially prone to occur at the placental site for the above mentioned reasons.

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These considerations plus the accessibility of the placental site in the lower uterine segment to infective organism present in the vagine before the bleeding began or introduced from without by unsterile technique on the part of the attendants constitute the chief dangers in the management of this complication of pregnancy.

What then shall we do when faced with the problem of placenta previa as regards its obstetrical surgical management? Since the chief danger is hemorrhage three fundamental questions must be settled.

1. What type of placenta previa is present?
2. How much blood has the patient lost?
3. How much blood has the patient left?

Of secondary importance may be asked

1. The duration of pregnancy.
2. Is the patient in labor and if first or second stage?
3. Is the fetus alive and viable.

The diagnosis of the placenta previa is relatively simple. Painless causeless bleeding in the third trimester should be considered placenta previa until proven to be from some other cause. The type can be determined by careful vaginal examination in the majority of cases without danger to the mother. I do not share the apprehension voiced by Dr. Irving of Harvard some years ago in a paper before the Chicago Gynecological Society that no patient should be so examined until she had been brought to the operating room, was on the operating table all scrubbed for delivery by cesarean section if profuse and uncontrollable hemorrhage was initiated by the vaginal or rectal examination. We have repeatedly done one sterile vaginal examination on such patients to determine the presence or absence of placental tissue over the cervical os as well as the thickness, firmness and amount of dilatation of the cervix. This is important information and should be obtained by the most experienced man in attendance on the case for on it may depend the method of procedure and incidentally the safety of the mother and baby. If the cervix is soft, dilated two or three centimeters and the placenta cannot be felt over the internal os, rupture of the bag of waters is all that is required in most cases to stimulate pains and allow the presenting part to come down and compress the separated part of the placenta against the lower uterine segment and control the hemorrhage, at least until the baby is born.

A similar result can be obtained in these cases by rupturing the membranes and introducing a No. 6 Voorhees bag into the amniotic cavity. With the expulsion of the bag about nine centimeters dilatation will be present which should permit the delivery of the small baby so frequently found in cases showing this complication. If the cervix is dilated at the time the bleeding occurs rupture of the membranes is usually all that is necessary to stop the bleeding. If it does not stop forceps may be applied and the baby delivered if the head is well engaged or version and extraction if the head is floating.

The Braxton Hicks version is a useful procedure in cases with little or no dilatation and under circumstances where cesarean section is contraindicated. In this procedure two fingers are inserted through the internal os, the baby turned by combined version, and a foot grasped and brought down to the knee or thigh. The case is then left to nature to deliver since extraction forcibly performed would result in serious lacerations in the vulnerable lower uterine segment and cervix and might result in uncontrollable hemorrhage postpartum. There is an inherent weakness in this method of delivery as well as in the use of the Voorhees bag. The insertion of the cord into the placenta may be in that part of the placenta that is compressed by the fetal thigh or the bag. In this case circulation in the cord would be cut off and the baby would die. Cesarean section therefore must be seriously considered when placenta previa of the lateralis or centralis type is considered.

The principle advantage of this procedure is the relative safety of the baby and therefore it is important to estimate accurately the maturity of the baby and its general condition before operation. It is important, as pointed out by Dr. Greenhill in 1920, to recognize the fact that placenta previa is not infrequently associated with malformation to the fetus, for this reason x-ray should be taken on all cases to determine whether monstrosity or deformity exists before doing a cesarean section. Since in most cases if the life of the fetus could be disregarded delivery from below would be much more seriously considered than if a normal viable fetus were present in the uterus.

The choice of the low cervical or classical cesarean section in these cases has given rise

to considerable controversy. My experience has led me to believe that very little difference is to be expected in the use of the two operations. If a classical operation is done one avoids the placental site which may reduce slightly the bleeding at the place of incision. In case bleeding is encountered after the delivery of the baby a ten yard uterine pack should be available and placed in the lower uterine segment to control this bleeding. More recently we have been experimenting with the use of Gelfoam in the control of bleeding from this source but it is too early to determine its value as yet.

If the low cervical cesarean section is done the bleeding points at the placental site can be controlled by clamps and sutures if necessary, but in the great majority of cases this is entirely unnecessary. An intrauterine pack can also be used in this incision and the uterus closed over the pack. The pack is removed vaginally in 24 hours. Because of the prematurity of the infant in so many cases it is important that preparation be made for the resuscitation of a small baby. A small flexible tracheal catheter should be provided and the resuscitation should be carried out in a foot bath of warm water to avoid heat loss. Oxygen should be available to aid in the resuscitation. The anesthetic may be local if the patient has lost much blood or general if not. Following severe hemorrhage oxygen should be supplied to the mother to reduce intrauterine fetal asphyxia while preparing for operation and during operation. If general anesthesia is advisable cyclopropane is the anesthesia of choice because of its high oxygen admxiture.

Postoperatively these patients should be watched for postpartum hemorrhage, and ergot and pituitrin given to help contract the uterus. Too much reliance should not be placed on the efficacy of these drugs since their action on the abnormal lower uterine segment cannot be expected to be highly effective. For this reason if hemorrhage persists after their use we do not hesitate to place the patient in lithotomy position, prepare the patient as for vaginal operation and insert a uterine pack through the cervix and make counter-pressure by packing the upper vagina.

At the first symptom of a placenta previa it is important to determine four things: the number of red cells, the amount of hemoglobin, the blood type and the Rh factor. The second important step is to locate compatible blood that is Wassermann negative whether this be obtained from a bank or donors. If there has been more than 200 cc blood loss, arrangements should be made for replacement by blood, plasma or salt solution before delivery procedures are instituted.

In cases of severe antepartum hemorrhage blood can be administered in both legs or both arms during operation. The amount necessary varies with the blood picture and clinical condition of the patient. Where blood is not available or pending its arrival, lower the head of the bed, binding the lower extremities, hot coffee enema and digitalis may support and reduce the shock while preparation is being made for delivery. All of these patients should be removed to a hospital as soon as a diagnosis is made or strongly suspected since there is no way of knowing when the fatal hemorrhage may occur. When removed to a hospital, consultation should be obtained before the patient has developed such severe anemia that whatever method of delivery is adopted may be too much for her resistance. Every ounce of blood that can be saved is valuable and may mean the difference between success and failure in the management of a case.

Surgical procedures are certainly not the only ones to be considered in connection with the management of placenta previa. However, they may be potentially part of the management of any case. It therefore is necessary to make preparations for these possibilities so that valuable time may not be lost when their need becomes apparent in a given case. Furthermore, the surgical possibilities of a case should be considered as early as possible in its management and either accepted or rejected on the basis of the conditions present. Delay and medical mismanagement should not be permitted in the early stages of the care of placenta previa and surgical intervention postponed as the last result and applied only when the condition of the patient is so desperate that the wisdom of any type of operation can be seriously questioned.

We have had at the Research and Educational Hospital since 1925 to the present time 66 cases of placenta previa in which we have done cesarean sections on 31 of which 20 were low cervical and 10 classical, and one Porro cesarean

Section. Version and extraction was done on 5 cases, breech extraction on 1 and version without extraction on 1. Spontaneous delivery occurred in 23, bag induction was used to combat hemorrhage in 4, low forceps 1, and breech in another. There were 53 multiparas and 13 primiparas. There was an average blood loss of 460 cc. The average length of gestation was 9 lunar months. There were 12 fetal deaths and 2 stillbirths, a total mortality of 21 per cent. Two sets of twins occurred, one pair lived and the other pair died. Only one baby was at term and none of the rest were over 34 weeks, 2 were non-viable. There were no maternal deaths.

DISCUSSION

Dr. Garwood C. Richardson, Chicago: Those of us who teach obstetrics certainly cannot help but be aware of the fact that this is a very large subject, and all the conditions that must be met in dealing with these cases cannot be discussed in the short period of time alloted to me.

In a general way I am quite in accord with Dr. Falls' handling of the subject. As to vaginal examination, I wish to say that we try to avoid such examination though occasionally it may be necessary. It is possible to tell by rectal examination that we are dealing with an extra amount of tissue between the examining finger and the presenting part of the fetus, except, of course, where there is a breech presentation and you are palpating against a soft buttocks. In that respect I wish to come to the defense of a procedure presented some years ago by Udey and Urner, of instilling into the bladder sodium iodide solution in order to diagnose placenta previa. The criticism of their work is that they stood steadfast on the grounds that you needed only a postero-anterior view to arrive at a diagnosis. We have run quite a large series of those cases and found them quite valuable in cephalic presentation. In some breech presentations we took as many as five exposures. We take both lateral and postero-anterior views to demonstrate the location of the placenta. Also, we have today a soft tissue technic in x-ray whereby the placenta may be identified by x-ray. In some instances that may obviate the necessity of doing a vaginal examination. I do not feel that vaginal examination is entirely without danger. I have personally encountered a number of cases where it was attended with quite severe hemorrhage in spite of the gentleness with which the examination was made.

Dr. Falls spoke of painless, causeless bleeding as being identical with placenta previa unless proved otherwise. I believe he has in mind those few cases of ablatio placenta where there is an escape of blood and occasionally a painless partial separation of the placenta.

In his discussion of cesarean section, Dr. Falls said that cesarean section is preferably done under local anesthesia where the loss of blood is great. In his paper that statement is supplemented with the recommendation that where general anesthesia is advisable, cyclopropane is the anesthesia of choice because of the high percentage of oxygen that is administered with it. At Wesley Hospital we have had considerable experience with the use of cyclopropane in general deliveries and also in cesarean section and other deliveries for placenta previa. The percentage of oxygen in cyclopropane is greater than in any other inhalation anesthesia. It is so great that where we have an embarrassed respiration from placenta previa or other causes and we do not get the cry for a few minutes, we find benefit is derived by the baby from the percentage of oxygen that it can absorb through the maternal blood in those cases where cyclopropane is administered. We have published a report of 1392 cases of cyclopropane anesthesia in obstetrics — now the number of cases has passed the 6,000 mark. We like it very much for all purposes as well as for use with placenta previa cases.

In his closing remarks Dr. Falls mentioned placenta previa and cesarean section and the site of the incision. Personally I like to feel out laterally to both sides when my incision comes down on the placenta and see if it is not possible to identify the margin of the placenta through the thickness of the uterus and then stretch the hand in between the placenta and the anterior wall of the uterus and quickly rupture the membranes and deliver the baby by podalic version instead of the usual method of delivery by forceps application to the head.

I am rather surprised at the small total number of placental previa cases that Dr. Falls reported from the Research and Educational Hospital since 1925. I just reviewed a nine months' statistical report by one of our residents at Wesley Hospital, and he reported 23 cases of hemorrhage due to placenta previa. I am sure that in the slightly over 7,000 cases that we have delivered in the new hospital we have had a somewhat larger number than the 66 reported by Dr. Falls, and certainly there were more deliveries in the Research and Educational Hospital than we had at Wesley. The figures I just quoted from Wesley do not include ablatio placenta. All our cases were verified cases either by feeling the uterus internally or by examining it visually at Cesarean section.

Progress In Cancer

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The problem of cancer is everybody's problem. It is widespread in its distribution—occurring in man, animal and plant. Today we realize that cancer is not confined to human beings but is found in most multicellular organisms. It has been demonstrated that much can be learned from plant tumors, spontaneous tumors in horses, dogs, fish, turtles, frogs and mice.

Twenty-five years ago cancer stood seventh in the list of causes of death. Today cancer is the second major cause of death. In 1946, 184,000 persons in the United States died of cancer. Hektoen[1] has made the statement that if all accessible cancers were treated early by surgery or radiation, or both, 50,000 lives could be saved yearly.

Dargeon[2] stated that cancer, leukemia, and other tumors, in the last decade, have exceeded almost all common diseases among the causes of death in certain age groups during childhood.

There are several reasons for this progressive increase in the number of reported deaths from cancer.

1. As a result of the increase in the span of life more individuals reach the age groups when cancer occurs.
2. With our present accurate methods of diagnosis, cases are diagnosed more frequently than heretofore and death reports are also more accurate.
3. There is a true increased incidence in certain forms of cancer such as cancer of the lung. Some have called attention to the fact that the increase in cancer of the lung parallels the increase in cigarette consumption in this country.

The term cancer does not represent a single disease entity but is an all inclusive term which takes in the various types of carcinoma, the various types of sarcoma, the different leukemias, Hodgkin's disease, and Wilms' tumor.

C. W. M. Poynter Foundation Lecture. Delivered at University of Nebraska Medical School, Omaha, Nebraska, January 12, 1948.

Multiple Primary Tumors. — In the largest number of cases the patient has one primary cancer. However, some patients present themselves with two primary cancers, differing in histological structure and taking their origin in two different organ systems. In another group, the patient is cured of one primary cancer. Many years later he returns with another primary tumor different in histological structure and origin from the first tumor. For example, the patient who is cured of cancer of bladder or penis, many years later develops a cancer of the colon. One of my patients had three primary cancers.[3]

Fields Of Activity In Cancer Research. — More knowledge has been acquired about cancer during the past fifty years than has been known since the beginning of time. Heretofore, the surgeon and the pathologist were the only ones interested in the cancer problem. The study of cancer today has broadened to include the sciences of bacteriology, biology, botany, chemistry, cytology, cytochemistry, endocrinology, enzymology, genetics, mutations, nutrition, pathology, physics, physiology and pharmacology, protozoology, tissue culture, virology, and the study of proteins, steroids, and vitamins.

The solution of the cance problem may come through the integration of facts and theories developed by the efforts of many investigators working in the various fields of cancer research.

The Role of Heredity. — The question of the part heredity plays in cancer is not only of interest to the physician, surgeon and research worker, but also to the average man or woman who is concerned with his or her individual well-being.

Attention was directed to the hereditary aspect of cancer by Maud Slye who conducted intensive experimental studies on the incidence of mouse tumors. She demonstrated that selective inbreeding of tumor-bearing animals, greatly increased the incidence of tumors. One of the conclusions she came to was the recessiveness of tumor in-

heritance and proposed a single recessive-factor interpretation. On the other hand, she also concluded that immunity to cancer is also inherited as a dominant character.

Some geneticists do not accept all of Slye's conclusions, and believe the method of inheritance does not follow a simple Mendelian procedure, but is probably understandable on a Mendelian hypothesis involving multiple factors.

In human cancer it is very difficult to get convincing proof of hereditary patterns because the human race is not composed of pure strains and the individuals will not be of uniform types similar in hereditary elements and in their tendency to form cancer of one or another variety.

For a person to take a fatalistic attitude concerning his having cancer because he comes from a so-called "cancer family" is unjustifiable because present day knowledge does not bear this out conclusively in the human, although it does in the animal. It only means that an individual, with a history of cancer in the family, should be alert and consult his physician when any symptoms or change in functions are present.

The Biologic Approach. — The biologic approach will aid the scientist in determining how growth has gone wrong and become abnormal. Research has indicated that the secret of cancer probably lies in the cell itself. More basic knowledge is needed for comparing the malignant growth with the corresponding normal. According to Reimann[4], the problems involved from the biologic point of view are: "How does the cancer cell get that way? How far can a cell normal or cancerous differentiate until it can no longer divide? What potencies remain in cells after some of their original complement has been expressed? What environmental chemical factors govern potencies and with what intracellular substances do they react to form what new substances? What are the qualitative changes when a cancer cell or cells originate? What are the enzyme patterns catalyzing these reactions both in the normal and in that cell that is cancerous; in that cell which has undergone 'somatic mutation'; in that cell which is no longer quantitatively different but qualitatively?"

The Virus Theory of Cancer. — Cancer has been produced in certain animals by a virus. Examples are the virus leucosis in chickens; the Rous sarcoma of chickens, the Shope papilloma of Western cottontail rabbits, and Lucke's work on the adenocarcinoma of the kidneys of leopard frogs.

Bittner's work on mammary cancer showed that a large percentage of normally low-cancer strain mice will develop cancer of the breast when they are foster-fed by a high-cancer strain mother. Conversely, when the offspring of a high cancer strain mother are removed by caesarian section to prevent them from suckling from her, and are foster-fed by a mother from a strain in which cancer is practically non-existent, the expected occurrence of cancer in these offspring does not take place.

It was suggested that some cancer inciter is transmitted in the milk of the mother mouse. This inciter is known as the Bittner milk influence, the Bittner milk factor, or the transmissible agent. Dr Robert G. Green stated that the Bittner transmissible agent was probably a virus.

As yet there is no conclusive evidence that human cancer is caused by a virus. It is hoped that if Green's results with cancer of the breast of the mouse can be confirmed for human cancer, that the control of human cancer will become far greater than heretofore.

Not all workers support the virus theory. They call attention to the fact that if the virus is to be considered as the cause of all cancers, some explanation must be given to those cancers produced by x-rays, carcinogenic agents, etc.

Enzymes and Cancer. — Research investigations have revealed that there are many differences and deficiences in the enzyme pattern of cancer and normal cells.

Greenstein studied a number of enzyme systems in a wide variety of tumors. In comparison with normal tissues of origin, the activity of various enzymes may decrease, increase, or show no alteration. Thus, each tumor type has its own characteristic enzymes. Whether or not in the metabolic processes of a normal cell there are enzyme changes in the metabolism of the cell which may result in changing a normal cell to a cancer cell is still unknown which offers a wide field for speculation and investigation.

Vitamins and Cancer. —. Williams and his associates have made the observation that there is a specifically different chemical pattern in

cancer cells as compared to normal cells in respect to their content of certain B. vitamins.

The quantitative demonstration of differences between the chemical constituents of normal versus cancer emphasizes the necessity for further study of the physicochemical differences between cancer cells and normal cells.

Hormones and Cancer. — It is believed by some that at times there occurs a disturbance in the body's production of hormones and alters their chemical composition so as to produce cancer in the very body cells normally benefited by them. It has been found that certain sex hormones appear to be carcinogenic. For example, it is possible to introduce the female hormones from the ovary into castrated male mice and produce cancer of the breast about as frequently as it occurs in the female mouse.

The application of estrogens over long periods have produced uterine, pituitary, testicular, lymphoid and bone malignancies in mice and other animals. It has been noted that in strains with a hereditary tendency, the hormone may be a hastening influence toward malignancy development.

In certain strains of animals malignant growths of the uterine cervix were elicited in over 50 per cent of the animals that received estradiol benzoate weekly for one year or more; also prolonged treatment of male animals led to the appearance of tumors of the interstitial cells of the testis.

These studies indicate that estrogenic compounds initiate in some unknown way a number of neoplastic processes, usually of tissues that are normally under the influence of sex hormones. In view of the carcinogenic potentiality in some of these hormones, a word of caution is in order against the indiscriminate use of hormones, which will be discussed under treatment.

Carcinogenic Agents. — Physical and chemical agents may be the initiators of cancers or other growths. These agents are usually designated as carcinogenic and all carcinogenic agents do not produce the same type of tumor. They also give rise to other growths, depending on the type of cells on which they were used. There is no general chemical pattern among these carcinogens and the problem is to find a naturally occurring carcinogen.

This new chapter in experimental cancer research was opened up by two Japanese pathologists, Yamagiwa and Ichikawa when in 1918 they reported that continuous painting of rabbits' ears with tar led to the appearance of cancer. Three years ago, English workers under the leadership of Kennaway and Cook, succeeded in isolating from tar a definite organic chemical (3,4-benzypyrene) which produced cancer in mice. This led to the artificial synthesis of a wide range of organic cancer-producing compounds, the fundamental component of many of which is anthracene.

One of the most active of these carcinogenic hydrocarbons is 20-methyl-cholanthrene. This compound is closely related to, and can be produced from, cholic acid which is a normal constituent of human bile. It is also closely related chemically to the sterols, which include the male and female sex hormones. Likewise, the chemical structure of steroids and certain vitamins closely resemble certain known chemical carcinogens.

Chemical carcinogens have been used in the production of experimental cancers in animals and so far not much light has been thrown on the causation of human cancer. Since methylcholanthrene is a close chemical relative of cholic acid, the question arises whether or not a slight shift in the chemical structure of naturally occurring cholic acid, might give rise to a carcinogen similar to methylcholanthrene being responsible for the causation of human cancer. Similarly other chemical carcinogens produced in the test tube have a striking intimate relationship to other substances which occur naturally in the human body. Shabad elicited some sarcomas and an increase in the number of other tumors in mice injected with extracts of liver from patients with cancer.

Not only carcinogenic hydrocarbons and sterols have produced cancer in experimental animals, but a large variety of chemical compounds of entirely different composition have caused cancer. The fact that such a variety of entirely unrelated chemical compounds have produced cancer leads to the belief that none of them is to be considered as the over-all primary cause of the cancer process. Some other factor or factors must also operate. Identification of the active chemicals has not yet been achieved.

Embryonic Theory of Cancer. — The modern embryonal theory was placed on a comprehensive basis by Cohnheim who postulated that neoplasms

arise from simple or complex tissue misplaced during embryonal development, and which retain a special proliferative potency.

Cohnheim's theory explains the structure and occurrence of many tumors, but it fails to explain why the embryonal cells begin to grow and when they do grow why malignant tumors result instead of normal structures.

Trauma and Cancer. — The role that trauma plays in the development of cancer or sarcoma is of great medicolegal importance. By trauma, we mean a single mechanical blow or injury. If a persons sustains a blow and one month later develops a growth at the site of injury, we know that the tumor antedated the injury or accident, because we also know that the tumor could never grow that rapidly.

Because of the medico-legal implications, it is imperative that the physician obtain an accurate history in which is detailed minutely the sequence of events. Ewing[5] has made the following statement: "It becomes necessary to determine in each instance just how far the trauma acted and how it acted, and if it were really important, and on this account in all properly conducted medico-legal inquiries we establish certain criteria which must be met before one can assume that a trauma is related to a tumor."

Chronic Irritation and Cancer; Occupational Cancer. — Chronic irritation can produce cancer. Early workers with roentgen rays were unfamiliar with the fact that repeated exposures to the roengen rays would result in cancer. Today, ample precautions are taken against this possibility.

A word of caution at this time is in order. The use of the x-ray as an agent for removing superfluous hair by beauticians and technicians has resulted in keratoses, disfigurement and ulceration that were suspicious for cancer, not necessarily immediately after the treatment but many years later. The public should be informed of the danger of these new contrivances that are advertised as free from danger.

Overexposure to the sun, wind and weather is sailors are apt to develop an increased proportion of skin cancer.

As further evidence of the role of irritation in the production of cancer may be mentioned the presence of rough, jagged teeth; holding a plug of tobacco habitually in the same side of the mouth, the smoking of pipes and strong cigars, and the chewing of betel nut.

That the lung is not immune to the effects of chronic irritation is seen by the increased incidence of lung cancer. Although the evidence is not conclusive, concerning the relation between the use of tobacco and the incidence of lung cancer, it does not seem unlikely that repeated filling of the lungs with a suspension of fine particles of tobacco does cause a certain amount of irritation.

Other examples of chronic irritation or exposure to certain chemicals are those encountered in various occupations. For example, the chimney sweep's cancer of skin from soot; skin cancer in cotton spinners due to mineral oil; cancer of lip in fishermen repairing tarred nets; cancer of bones in workers with luminous paints; cancer of bladder in workers with anilin dyes; cancer of lungs in some miners.

Diet and Cancer. — There has been much talk about diet and cancer. Almost every type of food has been blamed by the public for the origin of cancer. So far as is now known, diet has no effect on the incidence of human cancer.

Infectiousness of Cancer. — There is no evidence that cancer is a germ disease, such as pneumonia or tuberculosis. Cancer is not contagious. Of the recorded cases, we do not find a report of a person, who has been in close contact with a cancer patient, of ever having acquired cancer from that cancer patient. Physicians have even carried out experiments by inoculating themselves with cancer, but no cancer resulted.

Animal Experimentation. — The study of cancer cannot be carried out without the use of experimental animals. Without the use of animals much of our present day knowledge concerning cancer could not have been obtained. In order to continue our cancer research on a large scale, not only the medical profession, but the laity itself, who benefits most from this knowledge, must see to it that fanatics do not hinder the continuation of research. Our duty as physicians is to educate these fanatics, appraising them of the advantages that accrue to the animal, as well as to man.

Cancer Prevention. — Certain types of cancer are preventable. Jagged teeth should be removed to avoid irritation. The cessation of

smoking by a man who has an irritation and leukoplakia in his mouth will avoid further irritation. Industry has instituted hygienic measures and precautions to be observed so that the cancer incidence is not as great where workers are exposed to irritating fumes and substances, e.g., the aniline dye workers who are apt to get cancer of the bladder.

Papillomas of the bladder can be cured by fulguration, before they enter into the cancerous stage. It is a well known fact that the Mohammedans and Jews, who practice ritual circumcision, have practically no cancer of the glans penis. Early circumcision is recommended.

Cancer Control. — Cancer in its early stages is curable. The most effective measure is the periodic examination of men and women and children in the susceptible ages. Cancer can be controlled to a great extent by:

(1) The education of the public;
(2) The alertness of the physician to the problem.

The American Medical Association, the American College of Surgeons, the American Society for the Control of Cancer, the various State medical societies have all been launching educational programs to enlighten the public. These campaigns are concerned with acquainting the public with the facts of cancer and educating them to come early to the physician when any untoward signs or symptoms appear.

The educational program has stressed certain danger signals which point to the possibility of cancer and which should make the person see his physician at once. These symptoms are:

(1) Any persistent lump, particularly in the breast.
(2) Any irregular bleeding or discharge from any part of the body.
(3) Any sore that does not heal, particularly about tongue, mouth or lips.
(4) Persistent indigestion or change in bowel habits.
(5) Persistent hoarseness or cough, difficulty in swallowing.
(6) Sudden changes in the form or rate of growth of a mole or wart.
(7) Pain. This is usually a late symptom and one should not wait for it to appear, especially when pain is present along with any of the above symptoms.

The medical profession has assumed the responsibility for the program of education and cancer control. One of the developments has been the establishment of cancer detection clinics. The function these cancer detection clinics is the examination of apparently healthy individuals for the discovery of cancer in its early stages. In a period of 9 months, 1,709 persons were examined in detection centers in the state of Maryland. In this group, 17 carcinomas were found, a rate of 1%. Statistics published to date from detection centers in other states revealed cancer in as high as 7.6% of persons examined.

The role of the physician in cancer control is a most important one. Every practitioner of medicine will at some time have to deal with cancer patients. He should not be slip-shod in his examination. A thorough history should be taken particularly in patients over 40 years of age. The complete physical examination, including laboratory tests, and x-rays, must be carried out when there is the least suspicion that the patient may have cancer. Many a harmless-appearing lump on the skin turns out to be a cancer and the physician should scrutinize all nodules, moles and unhealed scars on the skin. Bleeding from the urinary tract, the vagina, bladder, or rectum, or nipple are danger signals and must receive due consideration.

Every woman's breast should be examined for lumps. The uterus should be examined for enlargement, lacerations, bleeding or new growths; the condition of the ovaries should be determined.

Indigestion, loss of appetite and loss of weight might mean a lesion of the gastro-intestinal tract. Any change in bowel habits should call for study.

The lymphatic system should be examined for enlargement of the nodes of neck, armpit or groin.

Difficulty in swallowing, chronic hoarseness or chronic dry cough are not always due to smoking.

Treatment. — The best form of treatment in any organ is early diagnosis and early treatment. Surgery is still the treatment of choice, either alone or combined with radium or x-rays. Some tumors of the urinary bladder, such as papillomata are cured by the use of the high frequency current.

The splendid results obtained today are due to early diagnosis and radical surgical removal

of the cancer. Radical operations are possible today due to improvements in surgical technique, blood transfusions, the use of antibiotics and new types of anesthesia.

It is much too early to place any evaluation on the use of atomic energy in the treatment of cancer.

The use of tracer substances in the diagnosis and treatment of cancer has opened up a new avenue to the approach of the cancer problem.

The use of urethane and nitrogen mustard are without any curative value.

Estrogenic materials have been used in the treatment of cancer of the prostate. The action is not curative, although it relieves the victim of some of the discomforts arising from this disease. Recently, interest has been aroused in the use of testosterone in mammary cancer. In some cases it seems to have a palliative effect. Other cases may be made immeasurably worse. At times the cancer can be caused to progress rapidly. The indiscriminate use of hormones in cancer is associated with dangers to such patients. This form of treatment is still in the experimental stage.

Recently in a report from the Therapeutic Trials Committee of the Council on Pharmacy and Chemistry of the American Medical Association, the following was emphasized:

"Because of the inherent dangers of indiscriminate steroid therapy of mammary cancer, the experimental nature of this therapy must be emphasized. The Subcommittee believes it imperative to reemphasize the known dangers and to point out that others may be discovered in the investigations now contemplated."

Cholesterol-Basal Metabolism Determinations

Clinical Observations in 830 Cases

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Introduction. There is common belief that hypercholesteremia and low basal metabolism are reciprocal findings in thyroid deficiency; that hypercholesteremia, in the absence of other causes, points more to thyroid deficiency than does a low basal metabolism; that the blood cholesterol estimation may provide a guide in the treatment of thyroid disease; and that true thyroid deficiency is always accompanied by hypercholesteremia[1,2].

Hypercholesteremia is said, also, to occur in diabetes mellitus (acidotic stage), nephrosis, chronic nephritis (nephrotic stage), pregnancy, obstructive jaundice (cholesterol ester determination is apparently of greater importance in liver infection and parenchymatous liver disease), malignancy, coeliac disease and in hemorrhagic and aplastic anemias.[3,4]

Cholesterol is a simple, monatomic, unsaturated, secondary alcohol widely distributed in the body, structurally related to vitamin D, and occurs free and combined in the blood with similar concentrations in plasma and whole blood. Diet and fasting apparently do not influence the level. A gradual and slight increase with age is noted throughout childhood. Variations from normal cholesterol values are said to be large in hypothyroidism and that small changes in the metabolic rate effect relatively large changes in the level, according to Weinhouse.[5]

In the belief that hypercholesteremia occured too infrequently to be of real significance in the diagnosis or evaluation of hypothyroidism, the authors surveyed a fairly large number of consecutive cases seen for the first time.

Plan of Study. A total of 830 patients was studied. A great many of these were endocrine problems but, with a multiplicity of allied conditions, they represented a wide cross-section of clinical diagnoses. Using modern and standard

TABLE 1

Total Number of Cases in Series			830
Males	257 or 31%		
Females	573 or 69%		
Underweight			
Male	43)		
Female	76) or 14.4%		119
Normal (Weight)			
Male	94)		
Female	194) or 34.7%		288
Overweight			
Male	120)		
Female	303) or 50.9%		423
			830

Averages

	Age	Weight
Underweight	29 years	118 pounds
Normal	36 years	135 pounds
Overweight	26 years	185 pounds
Ages 9 to 72 years	Weights 48 to 390 pounds	

height-age-weight tables and permitting up to 10% plus or minus values, these cases were then divided into three groups—underweight, normal weight and overweight — disregarding clinical diagnoses.

Cholesterol and basal metabolism tests were performed on all patients. Laboratory values were then determined and rated as low, normal or high. These results were then plotted for analysis.

Laboratory methods used. The cholesterol test used was the modified Bloor (6) with normal values from 150 to 230 mg. per 100 c.c. of blood. Basal metabolism tests were made with a Sanborn apparatus. Plus 10% to minus 10% was considered normal.

Results. (Table 1) There were 257 males (31%) and 573 females (69%) studied. Of these 119 were underweight (14.4%), 288 were of normal weight (34.7%) and 423 were overweight (50.9%). Ages averaged 29, 36 and 26 years; weights 118, 135 and 185 pounds respectively. Ages varied from 9 to 72 years; weights from 48 to 390 pounds. A division of ages by decades (Table 2) disclosed the largest group from 11 to 20 years (26.1%). Other values were 21.3% from 31 to 40, 18.9% from 41 to 50, 16.5% from 21 to 30, 12.2% from 51 to 60, 3% from 61 to 70 and 0.1% above 71 years of age.

TABLE 2

Decade	Under-weight	Normal	Over-weight	Totals
1 - 10	1	12	2	15 or 1.9%
11 - 20	16	151	50	217 or 26.1%
21 - 30	23	71	43	137 or 16.5%
31 - 40	48	70	59	177 or 21.3%
41 - 50	16	69	72	157 or 18.9%
51 - 60	9	41	51	101 or 12.2%
61 - 70	5	9	11	25 or 3.0%
71 - 80	1	—	—	1 or 0.1%
	119	423	288	830 or 100 %

Basal metabolic rates (Table 3) were low in 334 or 40% of the total cases. Of these 42 were underweight, 121 were normal and 171 were overweight. Three hundred and eighty-one (46%) revealed normal and 115 (14%) high basal metabolic rates.

Hypercholesteremia occurred in only 7 cases (0.84%), which contrasted very sharply with 334 (40%) with low basal metabolism. Two hundred and seven cases (25%) and 616 cases (74%) showed low and normal cholesterol values respectively.

Cholesterol determinations in the 334 cases with low metabolism (Table 4) revealed 61 (18.3%) low, 269 (80.5%) normal and only 4 (1.2%) with hypercholesteremia.

Clinical Data. (Table 5) Of the 7 patients with hypercholesteremia 6 were overweight and 1 of normal weight. Six were over 45 years of age, one was 23. Average age was 49 years. Almost all showed evidence of thyroid and pituitary deficiency with hypertension in 3. Weight averaged 194 pounds. There were 6 females and 1 male. Cholesterol determinations varied from 231 to 250 mgm. There were two normal and one high basal metabolic readings. None of the 4 cases with hypercholesteremia and low basal metabolism showed any cinical sign of myxedema. None of the 7 patients showed any clinical resemblance to any of the conditions previously stated to be associated with hypercholesteremia.

Conclusions. When 830 cases were studied with both basal metabolism and blood cholesterol determinations, a fair percentage—40% or 334 cases—showed low metabolism and an insignificant percentage—0.84% or 7 cases—a hypercholesteremia. Such a marked disproportion throws serious doubt on the value of cholesterol

TABLE 3

830 BMR and Cholesterol Test Results

		Low	Normal	High	Total Cases
Underweight	119 cases				
BMR					
	Male	21	13	9	43
	Female	21	39	16	76
		42 or 5.0%	52 or 6.3%	25 or 3.0%	119
Cholesterol					
	Male	12	25	—	37
	Female	22	60	—	82
		34 or 4.1%	85 or 10.3%	0 or 0.0%	119
Normal	288 cases				
BMR					
	Male	40	46	8	94
	Female	81	87	26	194
		121 or 14.6%	133 or 16.0%	34 or 4.1%	288
Cholesterol					
	Male	35	59	—	94
	Female	54	139	1	194
		89 or 10.7%	198 or 23.9%	1 or 0.1%	288
Overweight	423 cases				
BMR					
	Male	63	43	14	120
	Female	108	153	42	303
		171 or 20.6%	196 or 23.6%	56 or 6.8%	423
Cholesterol					
	Male	25	94	1	120
	Female	59	239	5	303
		84 or 10.1%	333 or 40.1%	6 or 0.7%	423
Grand Totals (Approximate)					
	BMR	334 or 40.0%	381 or 46.0%	115 or 14.0%	830
	Cholesterol	207 or 25.0%	616 or 74.0%	7 or 1.0% (0.84%)	830

TABLE 4

Cholesterol Values in 334 Cases Who Showed Low BMR's

		Total Cases	Low	Normal	High
Underweight					
	Male	19	2	17	—
	Female	24	3	21	—
		43	5 or 1.5%	38 or 11.4%	0 or 0.0%
Normal					
	Male	43	11	32	—
	Female	67	14	52	1
		110	25 or 7.5%	84 or 25.1%	1 or 0.3%
Overweight					
	Male	66	15	50	1
	Female	115	16	97	2
		181	31 or 9.3%	147 or 44.0%	3 or 0.9%
Grand Totals		334	61 or 18.3%	269 or 80.5%	4 or 1.2%

TABLE 5

Clinical Data on 7 Cases with High Cholesterol

1 — M.M. Female, obese, age 58 years, height 70 inches, weight 205 pounds, BMR + 23%, cholesterol 240 mg. Hypertension, atherosclerosis. Tolerates 8 gr. thyroid daily.

2 — S.M.E. Female, obese, age 23 years, height 60 inches, weight 222 pounds, BMR — 12%, cholesterol 245 mg. Pituitary-thyroid deficiency.

3 — K.P. Male, obese, aged 45 years, height 66-3/4 inches, weight 212 pounds, BMR — 29%, cholesterol 250 mg. Pituitary-thyroid deficiency.

4 — M.M. Female, obese, age 65 years, height 62 inches, weight 213 pounds, BMR — 10%, cholesterol 250 mg. Hypertension, pituitary-thyroid deficiency.

5 — E.N. Female, obese, age 63 years, height 62 inches, weight 194 pounds, BMR — 2%, cholesterol 231 mg. Hypertension, pituitary-thyroid deficiency.

6 — M.L. Female, obese, aged 38 years, height 62-1/2 inches, weight 189 pounds, BMR — 14%, cholesterol 237.1 mg. Psychoneurosis, pituitary-thyroid deficiency.

7 — C.H. Female, normal weight, aged 51 years, height 60-1/2 inches, weight 139 pounds, BMR — 19%, cholesterol 250 mg. Menopause.

determinations as a guide in hypothyroidism. It may be said that other factors besides the thyroid can be responsible for low basal metabolism. However, the size of this series studied—the majority of whom had some endocrinopathy—makes it very unlikely that the cholesterol test per se has any but academic value as a routine test in problems of internal medicine. Incidentally the series studied contained 15 diabetics. None showed hypercholesteremia; 13 had normal and 2 had low values. A consecutive survey of 50 cases with low basal metabolism of minus 20% or lower (-20 to -37%) showed 48 with normal cholesterol, 1 low and 1 with hypercholesteremia. This latter case was the only one of 7 with hypercholesteremia with a basal metabolism of over minus 20%, i.e. minus 29%.

SUMMARY

1. Conditions which are said to be associated with hypercholesteremia are given.

2. Characteristics of cholesterol are briefly discussed.

3. A plan for cholesterol—basal metabolism study is given.

4. The laboratory methods used are noted.

5. Data in 830 consecutive patients—largely subjects with some endocrinopathy—are shown as to age, weight, sex, weight-grouping and results obtained from standard cholesterol and basal metabolism determinations.

6. Clinical data are given for the small percentage of patients—0.84% or 7 cases—who revealed hypercholesteremia.

7. It is the author's conclusion that the blood cholesterol test per se is of little or doubtful value as a routine laboratory procedure in medical practice. It is probably of value in true myxedema or as a special study in certain specific indications.

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SALICYLATES IN RHEUMATIC FEVER

The opinion is now quite general that while there are remedies better than the salicylates to alleviate the joint pains and control the fever of the acute rheumatic state, they do not have any effect on the disease or influence the development of the cardiac complication. Consequently, while salicylates are still used to relieve pain and temperature, they are usually discontinued as soon as the patient complains of aural signs of intolerance or if vomiting indicates the beginning of the gastric irritation.—*International Medical Digest.*

Thrombophlebitis and Phlebothrombosis

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The problem of venous thrombosis and its most serious complication, pulmonary embolism, rightly commands the continued interest of all physicians. Because of this, I wish to take this opportunity to discuss with you and review some of the more recent advancements concerning thrombophlebitis and phlebothrombosis.

Phlebothrombosis is defined as a venous occlusion unassociated with inflammation, the clot being loosely attached to the vein wall. It has a tendency to propagate rapidly and easily become dislodged to produce an embolus. Thrombophlebitis is considered as clotting associated with and dependent upon inflammation of the vein wall, with the result that such clots are usually firmly attached. This is purely a basic and fundamental distinction.

The exact causes of intravascular clotting are still a mystery, however we are aware of many predisposing conditions. Briefly, these may be enumerated as sex, age, predisposing diseases or conditions such as pregnancy, abdominal operations, malignancies, sickle-cell anemia, cardiac decompensation, as well as injuries, obesity, infection, burns and many others.

It has been customary since the teachings of early pathologists to regard slowing of the circulation, changes in the vessel wall, and increased coagulability of the blood as the three factors responsible for thrombosis. These are frequently found existing together rather than as separate factors. The first two of these factors need no futher discussion. Increased coagulability of the blood is brought about by many states. Any trauma which liberates thrombokinase from the tissues will do so; this occurs after massive injuries to muscle — after any major operation. Loss of plasma in burns and shock, dehydration due to vomiting or rapid diuresis after mercurials produces hemoconcentration and increased viscosity. Patients with polycythemia or those suffering from carcinoma also come under this group.

Any person of a group of patients presenting the problem of peripheral vascular diseases with venous thrombosis may be classified as having either one or a combination of several of the following syndromes:

1. Superficial phlebitis of pre-existing varicosities, ascending toward the groin. No, or very little, edema exists. No spasm in calf muscle is present. Large, red, painful thrombi are visible and palpable.

2. Ascending plantar vein thrombosis syndrome in which there is pressure pain over the lateral aspect of the foot, later over the inner malleolus, then over the posterior tibial vein. Pain is present with dorsiflexion of the foot. The clot seems to ascend from day to day. The thigh becomes tender and swollen. The femoral artery pulsates more feebly and the oscillations are increased on the affected side. Embolism is frequent.

3. Calf muscle thrombosis syndrome. No plantar vein involvement is present but there are aches, cramps and tightness of the calf. There is spasm on dorsiflexion and increased temperature over the affected calf, with increased oscillations. The femoral vein is not tender. Temperature and white blood cell counts are normal. Emboli are frequently latent and unrecognized until embolism, and

4. Pelvic vein thrombosis syndrome. Pain and swelling in the buttocks or the adductor muscles close to the inguinal fold occurs, as does sciatic neuritis, urinary frequency, mucous diarrhea, or slight suprapubic edema. Palpable cords lateral to the prostate or uterus may confirm the diagnosis. Embolism is not frequent as long as the thrombosis is intrapelvic.

With the exception of a few entities all cases of peripheral vascular venous thrombosis can be classified under these syndromes. Therefore we

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note the very high incidence of involvement of the veins of the legs and feet as the sources of thrombotic emboli — a vital feature of the problem from the point of view of prevention and treatment.

Lack of recognition that the deep veins of the leg are the most frequent site of thrombosis and the most prolific sources of both fatal and nonfatal pulmonary embolism long remained unknown for two reasons: (1) Symptoms referable to such thrombosis are likely to be absent or are so slight that they are overlooked clinically and (2) restrictions upon necropsy dissection of the extremities. Such men as de Takats of Chicago, Ochsner of New Orleans, Homans, Fine and Starr of Boston, as well as others have contributed greatly to the clarification of this problem. As early as 1934, Homas[1], supported by clinical and pathological-anatomic observations, emphasized the great importance of the veins of the calf as areas of orgin of ascending thrombi. In 1937, Rossle[2] of Germany, in a report of 324 post mortem examinations in persons over 20 years of age, found 27.1% incidence of thrombi in the veins of the calf. In only seven instances did he find thrombosis of the femoral or hypogastric veins in the absence of thrombosed leg veins. Recently, Hunter, Sneeden and Robertson and Snyder[3], in a report of 351 autopsies reached the following conclusions:

1. 52.7% incidence of thrombosis of the deep leg veins among middle-aged and older persons forced to bed for varying periods of time. This was thought to be the greatest single factor favoring thrombus formation.

2. Bilateral involvement was found 110 times and unilateral, 75 times.

3. Fatal pulmonary embolism was responsible for 3.13% of all deaths; in 45.4% of the cases of death from such embolism the most probable source was thrombosed leg veins.

4. Phlebitis, either as a cause or as a complication of thrombosis has a minor role (8.1%), and

5. Planned and supervised voluntary movement and the elimination of too much comfort for the legs should do much to reduce the incidence of thrombosis and its all to frequent sequel, pulmonary embolism. In comparison with a control group, the incidence of phlebothrombosis was 35.1% less among those who were exercised.

The clinical evidence of a deep, quiet venous thrombosis in the calf is quite different in ambulatory persons and in those already confined to bed. No age beyond infancy is free from the accident of thrombosis, though it is most common in the 6th decade and beyond. When attacked in an active life, the individual may notice some degree of lameness of the calf in walking, some little edema of the ankle; occasionally only such vague symptoms as hardly to trouble a busy person. There may have been a minor accident or unaccustomed strain. Any lameness and swelling which are present will be relieved by a few days' rest in bed, but will recur on renewed use of the limb.

When thrombosis occurs during posttraumatic, postoperative or postpartum life in bed, or in the course of any serious illness, there may be even less to call attention to the local disease. It is under these circumstances that embolism is so apt to come out of a clear sky. However there is often pain in the calf, ranging from mere soreness to a real ache. There may or may not be some swelling of the ankle and lower leg. There may be tenderness of some toes, of the foot or of the calf. More especially, there may be some signs of irritability of the great posterior calf muscles. This can be brought out by strong dorsiflexion of the foot — Homan's sign. The muscle may merely resist passive dorsiflexion, which will be less complete upon the opposite side, or there may be discomfort, referred to the back of the calf or the popliteal space. The muscles, to the grasp of the fingers will often feel full and a little tense. Finally if the individual can sit or stand up, the foot of the dependent leg will perhaps appear faintly cyanotic, again as compared with the opposite side.

It may be necessary to leave the legs dependent for several minutes to bring out this sign.

In September, 1943, Dr. Jerome Mark[4] of Detroit, Michigan, and in June, 1944, Lesser and Danelius[5] at McCaw General Hospital, Walla Walla, Washington, reported the use of venography in the differential diagnosis of the peripheral venous circulation. There were no re-

ports of reactions or thrombosis following the injections of the diadrast solution they used.

By the use of venography one is able to determine with considerable accuracy the major features of the superficial, deep communicating veins and tributaries. Venography may then, become a valuable means of demonstrating deep venous thrombosis early in the disease where otherwise it might be allowed to proceed to thrombus formation and a fatal termination by pulmonary embolus. The importance of early recognization of deep vein thrombosis is generally recognized. A mortality rate of 8-10% has been reported by many clinics due to pulmonary infarction resulting from deep phlebothrombosis.

Venographic pictures of deep vein thrombosis are of two distinct types, depending upon whether venography is performed during the immediate acute episode or at a later date, when organization and recanalization have occurred. One is unable however, to differentiate by this means, whether the obstruction of the deep veins is due to thrombophlebitis or phlebothrombosis. The acute, immediate deep vein thromboses are characterized by the presence of many fine "hair-pin-like" venous markings in the leg and lower thigh. These were thought to be a group of previously unused small venous collaterals. The major deep veins frequently showed sudden blunting obstructions and sharp segmental defects in the lumen.

On the other hand, the venographic picture in the case of chronic or old deep vein thrombosis is characterized by a partial or total abscence of visualization of the femoral vein, the popliteal vein or the communicating veins of the leg. Marked irregular narrowing defects giving a patchy appearance of the vein may be noted. The superficial venous return is usually quite prominent and frequently tortuous.

Many clinicians, however, do not agree entirely with Mark, Lesser and Danelius and others about the use of venography. de Takats and Fowler[6] do not believe it should be used routinely. Fine, Frank and Starr[7] of Boston state that, "venography is an indispensable technique for the correct management of all types of thrombophlebitis of the lower extremities." Personally, I believe venography is a "tool" in the hands of the clinicians which, if used more routinely and correctly, will aid materially in arriving at an earlier and correct diagnosis of peripheral venous thromboses, and in turn help to prevent many pulmonary accidents resulting from embolism.

As for the treatment of these conditions, one may conveniently discuss those under two chief headings — conservative and radical.

In regards to the conservative methods, for centuries the swollen milk-leg was immobilized and elevated, the patient being kept in bed for an arbitrary four to six weeks, after which the patient must wear an elastic stocking from the toes to the groin for 6-12 months. Many patients have done well under this regime, but the chief fault is that the residual edema and possibility of embolism are entirely left to chance.

Paravertebral sympathetic blocks are frequently used. Some of the symptoms following venous thrombosis are due to a spasm in the peripheral vascular tree. This is especially evident when the illiofemoral segment is suddenly occluded and is surrounded by a periphlebitic exudate. A paravertebral block of the lumbar sympathetics will relieve the pain, and much of the edema and restore the arterial pulsations, which are frequently diminished. This method if used alone will not protect the patient from an embolus however.

Since about 1933 Roentgen-ray therapy has been used to hasten the absorption of the thrombophlebitic edema. Only a few very small doses (100-125 r. units) are given as indicated and the effect on the periphlebitic exudate and on the concomitant lymphangitis and lymphadenitis is sometimes remarkable.

Also under the conservative type of treatment the anticoagulant therapy must be included. This has its greatest use to prevent the propagation of the existing clot. de Takats and Fowler[8] of Chicago present their method of treatment as follows: Heparin is given at four-hour intervals in 50 mgms doses undiluted, intravenously. It is agreed that this will not maintain a steadily elevated coagulated time, but it is simpler for the patient and its protective value is equally efficient. Simultaneously, oral administration of dicoumarol is started, 300 mgms the first, and 200 mgms the second day. Prothrombin levels must be determined daily. The level must be kept between 60 and 30% of the normal prothrombin time and the dosage

of dicoumarol must be adapted to the daily determinations. May I add a note here in regards to the use of dicoumarol and Heparin. It is imperative that you be absolutely certain of the capabilities of your laboratory technicians in arriving at correct results in determining the prothrombin levels. Unless you can be sure of this, it is advisable to discontinue the use of the anticoagulants. Heparin is discontinued usually after two days, when the action of dicoumarol has become manifest. Dicoumarol is used until the patient becomes ambulatory, which is usually 8-10 days. It may be given over periods of several months without any deleterious effects. However, after discontinuation of the dicoumarol the patient has no further protection against thrombus formation. With adequate dosage and slow tapering off with discontinuation of the drug, no such phenomena are likely to be observed.

The treatment of phlebothrombosis is always radical. As mentioned previously, this type of intravenous clotting is accompanied with few or no manifestations. These patients do not appear ill, but they represent potential fatalities, because the clot not being attached to the vein wall, is likely to become detached and result in a fatal pulmonary embolism. Unless measures are taken to prevent the clot from getting into the systemic circulation after it becomes detached, a tragedy will result.

In suspected cases of phlebothrombosis and also in those cases in which a pulmonary infarct has occurred, ligation of the involved vein above the thrombus is imperative. Because in many instances thrombosis is bilateral, it is desirable to do a bilateral femoral ligation. There is no doubt that this is being accepted and performed more often in clinics today. Allen and his co-workers reported in 1943 an increasing incidence of femoral vein ligation at Massachusetts General Hospital from the year 1937 when only one ligation was done to the year 1942, when 211 were performed. 61% of the operations were unilateral and 37% were bilateral. Some surgeons advocate doing a thrombectomy in phlebothrombosis and repair of the vein.

The selection of the level of ligation is made on the basis of the evidence of the extent of involvement: (a) the common femoral vein is ligated when the disease is limited to the veins below the knee, or when pulmonary embolism has occurred in the absence of all signs of involvement: (b) the common iliac is ligated when the disease involves the common femoral, external, or common iliac veins: (c) the vena cava is ligated when the indications are that both common iliacs require ligation.

Like any operative procedure, some complications are being reported from the femoral vein ligation. The chief one of these is that instances of interference with the circulation of the extremity occur following the operation. Allen and his co-workers reported that in a series of 464 vein interruptions done at the Massachusetts General Hospital, not a single case suffered from serious circulatory embarrassment. The purpose of the operation is to interrupt the long column of blood in the femoral and popliteal veins, so that if the clot forms in them it cannot be swept upwards to lodge in the pulmonary artery. Interruption of the superficial femoral vein just distal to its junction with the deep femoral may be carried out without danger to the circulation of the extremity. It is the safest level for the average surgeon to interrupt this large venous system, since the vessel at this point is free of any tributaries. At the same time, the long venous channel of the leg is interrupted at a sufficiently high level to prevent fatal embolism. The vein may be tied in continuity but division of it and ligation of each end with a primary ligature and a secondary stitch ligature distal to it in each stump is considered the best procedure. The ligatures should be of the nonabsorbable type, either silk or cotton. The safest method of anesthesia in the postoperative or very ill patient is local infiltration of 1% procaine.

The interruption of the common femoral vein proximal to the profunda branch is generally reserved for those patients in whom a thrombus is found in the common femoral vein. This surgical interruption of the common femoral vein, if it contains a thrombus, will not endanger the circulation of the extremity, since it has already been occluded. The common femoral vein is relatively short and several small tributaries drain into it, so that it is a more difficult procedure to interrupt it than the superficial femoral vein. One or two of these branches usually

must be ligated and divided separately to give sufficient length of the vein to permit its safe division and ligation. Under no circumstances should the common femoral and the saphenous vein both be interrupted, unless it is found that they are already occluded by thrombi.

In summary, we may say that the incidence of venous thrombosis in peripheral veins is much higher than ordinarily suspected. Four groups of venous thrombosis, namely, the superficial venous thrombosis, the ascending plantar vein thrombosis, the calf muscle thrombosis and the pelvic vein thrombosis, can be recognized as being the primary sources of clotting. Any one of these may produce by propagation, an iliofemoral thrombosis, the classic milk leg. The treatment of such thromboses should vary according to the primary site, the extent and age of the thrombosis. Anticoagulant therapy, paravertebral sympathetic block, proximal vein ligation, and roentgen-ray therapy all have their indications but should be used selectively. Visualization of the venous system by opaque substances is a valuable "tool" in the diagnosis of thrombosis. Pulmonary embolism is still often the earliest manifestation of an unrecognized thrombus in the periphery; its appearance calls for emergency measures, and, following recovery of the patient, for a thorough investigation of the source of the embolus, since recurrent emboli are increasingly dangerous.

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Ovarian Thecoma

Case Reports With Contrasting Symptomatology

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The functioning ovarian neoplasms are those which produce symptoms by reason of the production of a hormone of abnormal quality or quantity. Best known are the granulosa cell tumor and the arrhenoblastoma which produce converse symptoms, the former ordinarily accentuating feminism and the latter producing masculinizing effects. Less well known are several functioning tumors such as thecoma, masculinovoblastoma and gynandroblastoma which appear to bear some genetic relationship to granulosa cell tumor or arrhenoblastoma[11] but with a varying gradation of effects on the host. With the pooling of increasing numbers of case reports and collected series, and with improved biologic and histologic methods of study, it appears that a kinship between these bizarre neoplasms may be established.

Presented before the Section on Obstetrics and Gynecology, 107th Annual Meeting of Illinois State Medical Society.

Most logical of the proposed theories of histogenesis is that of Novak[15] who concludes that the pluripotential primitive mesenchyme may be the progenitor of theca and granulosa cell tumors. Luteinization of ovarian stromal cells appears to account for the so-called "lipoid cell" tumors in this group. That, however, each of these tumors is always a distinct and separate entity in an orderly classification does not seem likely, and admixtures of types appear to be common.

A case in point is the thecoma, or theca cell tumor, originally described as "fibroma thecacellulare xanthomatodes ovarii" by Loeffler and Priesel in 1932[13]. The usual gross features of a thecoma are those of a smooth or lobulated, firm or rubbery tumor of one ovary varying in size from that of a normal ovary to that of a large melon. Characteristic is its yellowish pink appearance through a milky or brownish capsule. It is of a fibroid nature, and the cut surface presents streaks or islands of prominent yellowish to ochre tissue often separated into lobules by septa of greyish fibrous tissue which may constitute most of the specimen. The occasional presence of cysts is attributed to degenerative necrosis.

Miscroscopically are noted interlacing bundles of connective tissue cells with rather broad spindle-shaped nuclei. Scattered throughout are islands or nests of epithelioid cells with either vacuolated or acidophilic cytoplasm and with clearly defined polyhedral cell boundaries giving the cells the appearance of luteinization. Lipoid may usually be demonstrated within the characteristic cells and occasionally extracellularly. The presence of a high phospholipid determination serves to differentiate thecoma from ovarian fibroma with fatty degeneration[9, 23]. There is an intimate relation between these cells and a surrounding reticulum as can be demonstrated by special stains. The resemblance of these cells to those of the theca layer about the normal graafian follicle gives the tumor its name. Gardner[6] considers the theca cell to be a phase of the normal stroma cell which, under the influence of the developing follicle, changes its morphology to permit rupture of the follicle. These cells may occasionally be differentiated from granulosa cells only with difficulty. Traut and Marchetti[21] feel that special silver stains demonstrate argentaffine granules in the cytoplasm of granulosa cells but not in theca cells.

With wider knowledge of these tumors and by re-examination of old specimens previously diagnosed as fibroma of the ovary, it has been shown that many of these so-called fibromas were, in fact, thecomas [7, 1]. Meig's syndrome of ascites and hydrothorax, so commonly associated with fibroma, has been reported with thecoma [2, 14, 16, 18]. Hyalinization of large areas of a thecoma is frequent.

The classical symptoms of thecoma are similar to those of granulosa cell tumor, namely those attributed to an increase in estrogenic substance. Although estrogenic substance has been demonstrated in thecomas [22], it is believed by some [21] that it cannot be found in the pure type of thecoma, and, when demonstrated, is due to the presence of granulosa cells. Whereas granulosa cell tumor is more common in young women, thecoma usually occurs in the older age group and commonly affects an individual after the menopause causing a resumption of menses, rejuvenation of libido and turgescence of the breasts. The uterus is often enlarged and the endometrium usually hyperplastic. Several observers [10, 12, 17, 23] have noted a high incidence of fibromyoma, adenomyoma and of uterine carcinoma. Pregnancy can occur in the presence of thecoma. Occasionally the only symptoms are those due to the presence of a pelvic tumor by virtue of size, weight, pressure, or twisted pedicle. Rupture of a cystic thecoma has been reported[4].

Less common signs and symptoms associated with thecoma are amenorrhea, changes toward the masculine habitus, deepening of the voice, hirsutism and enlargement of the clitoris, all of which are, also, characteristic of arrhenoblastoma or masculinovoblastoma. Stout[20] has recently reported the appearance of virilism during pregnancy with recession of virilism following excision of a thecoma in the puerperium. The masculinization syndrome has been reported [5, 8, 19] in association with ovarian enlargement and hyperplasia of the thecal cells, termed "hyperthecosis" by Fraenkel. In about 25 per cent of cases of thecoma there are no symptoms suggestive of endocrine dysfunction[3].

The treatment of thecoma consists simply in excision of the tumor which is curative except in the rare cases of malignant degeneration[7].

CASE REPORTS

The admission of three cases of thecoma in a period of three months prompted the following reports:

Case 1. Miss G. H., No. 16317, age 38, was admitted to the hospital on 22 December 1946 for study because of virilism. Hirsutism, coarseness of the voice and heavy frame had been present and increasing since the age of 16, just before the menarche. Her periods were irregular until the age of 35 when they became scantier and occurred every three weeks but the flow had become heavier again the year before admission. She had become pregnant in February 1946, and nearly three months later a Friedman test was negative. Following an induced abortion in the third month, she had a mild postabortal sepsis and resumed her menstrual cycle.

Examination showed a heavy-framed, broad-shouldered woman with bluish complexion and a beard requiring daily shaving. Coarse black hair was present on the shoulders, breast, abdomen and extremities. The clitoris was about 100% enlarged. The uterus was the size of a 2-3 months pregnancy. A rounded fist-sized tumor was detected to the right of the uterus. Basal metabolic rate was normal; pituitary fossa and peri-adrenal insufflation roentgen studies were negative. No studies were made for 17-ketosteroids in the urine.

At operation the right ovary was found to measure 6 x 5 x 3 cm., was irregularly ovoid, firm and pale pinkish-yellow and contained a 3 cm. cyst. This ovary and tube were removed. No left ovary was recognized. The uterus was about 25% enlarged.

On section the ovary was firm and fleshy; pale yellowish-pink tissue stroma composed the central portion whereas firm lemon yellow tissue divided into lobules by gray septa was found in a 5-14 mm. band beneath the serosa. One cyst contained hemorrhagic fluid and several smaller cysts contained pale yellow fluid. Uterine scrapings showed early secretory endometrium.

Microscopic examination of the yellowish tissue revealed elongated spindle-shaped cells forming interlacing bundles. The nuclei were rich in chromatin, elongated and spindle-shaped with little variation in size or staining quality, but there was some variation in the amount of eosinophilic substance in the cytoplasm. Fat stains showed a small amount of lipoid substance.

Diagnosis: Benign theca cell tumor of ovary.

Four months after operation she reported no menstrual flow. There was a visible decrease in the amount and coarseness of the hair of the face and body. The clitoris and uterus were unchanged. Estrogenic therapy was instituted.

Case 2. Mrs. M. D., No. 22284, age 46, was admitted to the hospital on 16 March 1947 because of menorrhagia. Her flow had increased seven years before admission and for four months she had flowed heavily two weeks in each month.

At the age of 16 her appendix was removed, and, at 42, she had a subtotal thyroidectomy for toxic nodular goiter. A mild hypertension had been present for several years.

Examination was not remarkable except for a multinodular uterus about three times normal in size. No adnexal tumor was recognized.

At operation the right ovary was found solidly enlarged to 6.5 x 5.5 x 4.7 cm. and was pale yellowish-pink. Supracervical hysterectomy and right salpingo-oophorectomy were performed.

On section the normal ovarian tissue was almost completely replaced by firm, smooth, orange-yellow, lobulated tissue with interspersed pinkish gray septa radiating from the hilum. The uterus measured 10 x 10 x 9 cm. and contained multiple fibromyomata.

Microscopic examination revealed many hyalinized areas but the yellow tissue noted on gross observation consisted of spindle-shaped, elongated cells with dark, ovoid nuclei and moderately distinct and abundant cytoplasm; the cells were arranged in crisscrossing bundles within a sparse connective tissue framework. Blood vessels were numerous. Occasional cells were round with laterally displaced nuclei and light staining cytoplasm. The endometrium was atrophic.

Diagnosis: Benign theca cell tumor of ovary.

Examination one month after operation revealed no abnormality.

Case 3*. Mrs. B. R., No. 21945, age 35, was admitted to the hospital on 27 February 1947 because of menorrhagia. Her periods were normal until age 21 when they became so irregular that she had one entire year of amenorrhea ten years before admission. She was treated by injections. For four to five years prior to entry she flowed two weeks each month, had cramps and noted pelvic pain on occasions. She had been unable to become pregnant.

At the age of 18 she had an abdominal operation with removal of the appendix and one tube.

Examination was not unusual except for slight uterine enlargement and a freely movable lemon-sized tumor in the left adnexae.

At operation the uterus was found normal; the left ovary was smooth and measured 6 x 4 cm.; the right ovary was enlarged to a lesser degree; adhesions were present throughout the pelvis. Both ovaries were removed.

The ovaries measured 6 x 3 x 4 cm. and 5.5 x 4 x 2.5 cm., were egg-shaped, firm, nodular, covered with yellowish pink serosa, and, on section demonstrated abundant yellowish pink lobulated stroma with several small cysts.

Microscopically there were areas of normal ovarian stroma, but the remainder was replaced by bundles of spindle-shaped cells with relatively large nuclei and relatively scanty eosinophilic cytoplasm; these cells were arranged in interlacing bundles not particularly

*Case 3 was a patient of Dr. R. J. McGann to whom the authors are indebted for the use of this report.

well demarcated from the adjoining less cellular and more hyalin stroma. The cysts were lined by a double layer of cuboidal cells.

Diagnosis: Benign theca cell tumor of ovaries.

Two months after operation she felt well, had no bleeding and was receiving estrogenic therapy.

DISCUSSION

In the first case roentgenograms after periadrenal air insufflation were negative. The partial recession of hirsutism following oophorectomy would appear to incriminate the thecoma as the cause. A paradox existed in that the most feminine of all characteristics, pregnancy, occurred in the presence of virilism; the negative Friedman test during the pregnancy may have been due to an abnormal level of androgen. Absence of the contralateral ovary with amenorrhea following unilateral oophorectomy suggests that it is possible for ovulation to occur in the ovary involved by the tumor.

The second case is characteristic of the symtoms of the majority of reported cases of thecoma and confirms the incidence of associated fibromyoma.

Similar symptoms were present in the third case, but we have been unable to find a report of bilateral thecoma and consider that this case may be unique. To be sure, bilateral thecal hyperplasia has been reported[8], but generally in association with the masculinization syndrome.

CONCLUSIONS

Thecoma is a functioning ovarian neoplasm of mesenchymogenic origin common also to granulosa cell tumor. It is possible that the presence of granulosa cells in thecoma is responsible for symptoms attributable to estrogenic production. Nevertheless, there appears to be a relationship between thecoma and the masculinizing ovarian tumors, probably based on similarities in the lipoid containing cells. Despite these morphologic similarities, certain characteristics of thecoma such as the usual age incidence, the gross charcteristics, and the infrequent occurrence of malignancy, are of clinical importance.

SUMMARY

A genetic relationship between the functioning ovarian tumors appears to be established. Admixtures and gradations of type are common. Theca cell tumor is probably related to granulosa cell tumor.

Three cases of so-called "thecoma" with varying symptomatology are presented.

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DISCUSSION

Dr. Ronald R. Greene, Chicago: We all owe thanks to Drs. Patton for an unusually excellent presentation of a relatively new and what should be a somewhat controversial subject.

Loeffler and Priesel almost universally have been given credit, or should it be blame, for first describing these tumors in 1932, though Moretti and Arrigoni clearly described them in 1927. To date approximately 100 have been reported. Most of them have been found because old tissues diagnosed as fibromata have been re-examined. No matter what the findings have been a diagnosis of theca cell tumor was made. Cases 2 and 3 are quite characteristic, both grossly and microscopically.

I am going to disagree with the authors about Case 1. Through sheer coincidence I saw the microscopic preparations of Case 1 which were sent to Dr. George H. Gardner, who is one of the members of the Board of the Tumor Registry of the American Gynecological Society. I spent some time studying the microscopic preparations of this case and I do not believe the patient had an actual tumor, for several reasons. First, the size was given as approximately twice that of a normal ovary. The patient apparently had, and had always had an aplasia or lack of development of the left ovary. The right ovary, therefore, carried on the function of both ovaries. This is a compensatory or physiological hypertrophy, the same as occurs when one adrenal gland is removed. The measurement of the ovary according to Maximoff is from 2.5x1.5x0.6 to 5.0x3x1.5 cm. The size of this ovary by compensatory hypertrophy could easily be the reported 6x5x3.

Secondly, microscopically there was no demarcation, between what was considered ovarian tissue and the rest of the cortical and medullary stroma of this ovary. There was no gradation stroma of the tumor or areas in the slides contain primordial follicles, mature follicles and atretic follicles. There were no interstitial cells. The stroma was identical to that found in properly fixed, properly prepared ovarian stroma. From the photograph it was obviously a hemorrhagic, cystic corpus luteum.

Third, hormonically — the masculization dates back to the age of sixteen. She was operated on at 38 years. There is little likelihood of the tumor being present for twenty-two years without symptoms. I know it is reported and it is probably possible but it always seems unlikely that a tumor producing hormone in excessive amounts would not destroy the ovary. It is hard to conceive of sufficient caliber of the remaining ovary to produce mature follicles resulting in pregnancy.

Dr. Robert J. Patton, Springfield (closing): I am delighted that Dr. Greene brought up some controversial points. We relied not only on our own pathologist in whom we have a great deal of confidence, but sent the slides to the ovarian tumor registry hoping they would confirm the opinion. We have heard from Dr. Emil Novak who says it is a thecoma. I believe it is a thecoma because it had the characteristic yellowish appearance. I am sorry I could not show it in color. There were areas of normal ovarian tissue in the center. There is no question but up under the cortex there was a band as wide as your finger of lobulated yellow tissue which was distinctly different from the normal ovary. I still feel it is a thecoma, although from reading the various reports of thecoma I wondered somewhat if there is not much more thecal hyperplasia than we really know about. Our pathologist said that perhaps that third case was not what is really thecal hyperplasia although there were yellowish elements.

MORTALITY FROM GALLSTONES DECLINES

According to the Statistical Bulletin of the Metropolitan Life Insurance Company, the age adjusted death rate from gallstones among white policy holders (ages 1 to 74 years) dropped from 3.4 per 100,000 in 1936 to 1.7 per 100,000 in 1946, a reduction of 50 per cent. For at least fifty years prior to 1936, however, the death rate from this cause showed no improvement.

The recent decline benefited policyholders in each sex and at every age period of adult life; prior to age 35 the death rate from gallstones is pratically negligible. The decrease in mortality was larger for women than for men throughout adult life. Nevertheless, the death rate among women is still more than twice that for men at almost every age period.

Undoubtedly, a substantial part of the recent reduction in the mortality from gallstones is to be credited to the widespread use of the sulfa drugs and pencillin in combating infections which may seriously complicate the original condition. At the same time there have also been advances in surgical techniques.

Laboratory Methods Useful in the Differential Diagnosis of Chronic Chest Diseases

Henry C. Sweany, M.D. and J. Robert Thompson, M.D.
Chicago

In discussing laboratory methods of value in the differential diagnosis of chronic chest diseases, one should keep within the realm of practicality and consider only those procedures which the ordinary laboratory can perform. Many laboratories lack the personnel and equipment to conduct tests we consider practical, and until such a time as they are equipped the clinician will be handicapped in his efforts. In turn, the physician can be of great help to the laboratory if he will plan his program of investigation by cooperating with the technical staff.

Every precaution must be taken when collecting specimens for analysis, making sure that fluids or tissues are placed in sterile containers or in the proper fixative. The interval between the time of collecting samples and their arrival at the laboratory should be minimal. If a sputum is to be submitted, instruct the patient as to the method of securing it, advising the patient to collect only that brought up after coughing or from the "depths" of the chest. The attending doctor would do well to note the physical characteristics of material he collects (pleural fluid, sputum, tissue, etc.) at the time it is taken and pass this information to the laboratory workers. It cannot be emphasized too strongly that careful planning of the various procedures contemplated will save time for the doctor, patient and laboratory worker; the financial aspect, in respect to the patient, must be considered also.

From the Research Laboratories of the City of Chicago Municipal Tuberculosis Sanitarium.
Read before General Assembly, Illinois State Medical Society, May 14, 1947, Chicago.

With this introduction we will discuss briefly several of the more important and essential laboratory procedures (x-rays will not be included).

I. *Blood examination.*

A. *Sedimentation rate* — while considered by some to be of doubtful value because of the number of variables involved, it is commonly used and rather simple to do. In general it is considered to be an indication of protein variability (especially the fibrinogen fraction) and an index of the degree of inflammation in the body.[1] In tuberculosis, the speed of sedimentation parallels the activity of the disease; in cancer, it closely parallels the degree of malignancy; and in localized acute inflammations, the rate increases in direct proportion to the leucocyte count.[2]

B. *Protein content* — early cases of sarcoidosis (Boeck) usually show a marked increase in globulin fraction (gamma) and an increase in the total protein. All stages of tuberculosis show an increase in the globulin fraction, a decrease in the albumin fraction and a normal or subnormal total protein. The usual picture in cancer is a slight increase in the globulin fraction (alpha) but a decrease in the total protein.[3]

C. *Differential blood count* is a routine laboratory procedure in most hospitals. Especially one should look for eosinophiles in numbers above normal in allergic conditions; immature leukocytes in infectious processes; and abnormal cells in suspected blood dyscrasias. The presence of toxic granules in the poly-

morphonuclears leukocytes are of significance also.

D. *Wassermann or Kahn test* — is of course a routine procedure. Aortic aneurysms and gummata must be considered in the differential diagnosis of chronic chest diseases.

II. *Bacterial cultures* should be made from sputum, stomach lavage, pleural fluid and brochial aspirations, as well as from tissue obtained by biopsy method (lymph nodes, needle punctures, skin, etc.).

A. *Isolation of tubercle bacilli* — at one time considered a difficult procedure, can now be done with relative ease. Approximately 10 per cent more positives can be found by culture than with concentration smear and animal inoculation. Last year Dubos and Davis reported the use of Tween 80, a water-soluble ester of a fatty acid (Oleic) in combination with bovine plasma in a liquid medium for more rapid growth of tubercle bacilli.[4] In our own laboratory we have incorporated Tween 80 and bovine plasma in one of the basal solid media (Saenz' or Loewenstein's)[5] and obtained growth more rapidly than with the basal media alone; using this technique it is not unusual to have luxuriant growth three weeks after inoculation.

B. Because of the incidence of *mycotic infection* the laboratory should attempt isolation of any related organisms. Inoculation of any one of several media (such as Sabouraud's) should be ample.

C. Needless to say, aerobic and anaerobic cultures for other microorganisms in chronic suppurative disease of the lungs is indicated. It is a mistake and impractical to assume that a fully trained bacteriologist is essential to carry out these procedures. Most media are sold commercially and the others can be easily prepared. An alert technician can be relied upon to make any cultures and if necessary consult a qualified bacteriologist when specific problems arise.

III. *Animal inoculation — the same materials* which are cultured should be injected into a laboratory animal. The two animals of greatest value for the average laboratory are the guinea pig and the white mouse. The hamster was reputed to be of greater value for tuberculosis work because of the shorter length of time required to develop lesions, but in our work we have found the guinea pig more reliable and easier to care for. The white mouse is used for toxicity studies on organisms isolated from chronic suppurative disease of the lungs.

IV. *Micro-sections* —

A. *Sputum, bronchial aspirations* and *pleural fluid* lend themselves very well to sectioning. Our method is to fix in formalin, centrifuge at high speed, and carry the precipitated material through the solutions as we would a piece of tissue. About one year ago Papanicolaou (6) reported several cases in which he used a method like that used in diagnosing cervical carcinoma by vaginal smears. This method involves the use of special stains which theoretically make the abnormal cells more easily identified. Suffice it to say that each technique has its merits and the important point is that the microscopist learn to identify normal and abnormal cells which comprise the sputum or pleural fluid flora.

B. *Lymph node* — an intensive search for lymph nodes which can be removed for microscopic study should be carried out. This is of value especially in tuberculosis, cancer, histoplasmosis and the malignant lymphomas.

C. *Skin* — the lesions in Boeck's sarcoid are rather characteristic and the microscopic picture is rather typical; other diseases such as disseminated lupus and blastomycosis show skin lesions which can be biopsied readily.

D. *Sternal marrow* biopsies have been reported to be of value in diagnosing miliary tuberculosis; for this procedure a good core of bone marrow must be obtained.

E. *Needle biopsies* of parenchymal lesions or masses in the chest are not without inherent dangers.

V. *Skin testing* —

A. *Tuberculin* (Old Tuberculin) in varying dilutions beginning with 0.1 cc. of a 1:10,000 strength and running down to a 1:10 dilution is of value. A positive reaction signifies hypersensitivity through infection or vaccination but does not indicate the degree of activity. A strongly positive reaction in the 1:10,000 dilution in young adults is good evidence of active tuberculosis. Negative tuberculin reactions have a greater absolute value than

positive reactions; in completely insensitive cases where there is not sufficient evidence to explain the decrease in sensitivity (as overwhelming disease) the individual is practically never tuberculous.[7]

B. *Histoplasmin* — skin test should be done in suspected cases. A great deal has been written on healed pulmonary lesions (calcifications) in tuberculin-negative students in the Kansas City area.[8] These individuals were positve to histoplasmin. There is at present a paucity of anatomical-pathological evidence to substantiate the claims that these are healed histoplasmosis cases.

C. *Coccidioidin* — is another skin test at our disposal. When dealing with an asthmatic, bronchiectatic or bronchitic patient, a complete series of skin tests is indicated to establish whether or not there is any sensitivity to *pollens, dusts, foods, clothing,* etc.

In conclusion, we might stress that each patient offers a different problem as to the number and nature of the laboratory tests to be done. Through cooperative effort on the part of the clinician and the laboratory, most of the pitfalls can be avoided. Information helpful in arriving at the correct clinical diagnosis will then be forthcoming.

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SOMETHING CAN BE DONE

In one respect Geriatrics is making signficant and notable advance. Because a disease is incurable, or a deterioration irreversible, the idea that the doctor can do nothing, would be regarded in the future as a betrayal of the standards of the medical profession and the interests of the patient. Faced with any incurable or any of the normal deterioration of aging, the physician works for three things; alleviation, palliation and postponement. His method is characteristically one of support. For example, if a heart condition is incurable he will bring all the other organs, nutritional resources and hygiene program of the patient up to the highest efficiency. This gives the heart better service and less labor and also may remove one or more of the original and continuing causes of cardiac condition.

This gives the heart a chance to return to the organs longer and better service than before. The man is better, the heart is better. Many a man has become more active, more vigorous and happier after his first coronary attack by the use of this method. If one cannot restore the crippled organ, restore the man, he may "cure" his own heart. This is typical of the direction of advance in Geriatrics. It applies to every organ and function.

Much can be done for the weakened or diseased and otherwise hopeless kidney, liver, pancreas, eye, joints, arteries and the mind of the ageing man by this procedure. Research is increasingly bringing out the fact that the illness of one organ is often due to failure of another and this in turn the result of yet a cause still more occult. This points to the importance of a thorough all-over examination of the whole patient in the presence of any chronic illness and also in the presence, of no apparent illness at all.—C. Ward Crampton M.D., in *Bull. Med. Soc. Co. of Kings.*

CASE REPORTS

Appendiceal Lithiasis

Benjamin F. Hoopes, M.D., F.A.C.S.
Bloomington, Illinois

A calcified fecalith of the appendix may present a difficult differential diagnosis for the radiologist.[1,2,3,4,5,6,7,8] The pathological conditions which offer the most difficulty are phleboliths, calified mesenteric nodes, enteroliths of the bowel, gall stones and ureteral stones. Phleboliths are most commonly multiple and bilateral. They lie deep in the pelvis and appear circular with a smooth surface. Calcified glands are usually near the spine. Enteroliths in the bowel are usually larger and movable. Gall stones are less dense and, as a rule, higher in the abdomen. They may be visualized by cholecystography. Ureteral calculi are frequently smaller in size, lie in the course of the ureter and may be diagnosed by passing a ureteral catheter.

The following case is presented, as the calculi were faceted and of the shape and size of those commonly found in the gall bladder.

J. K. S. 18 year old sailor. The patient first noted generalized abdominal pain and nausea about 24 hours before admission to the hospital. He developed diarrhea and had five loose stools that contained neither blood nor mucous. The pain continued and localized in the right lower quadrent of the abdomen. No nausea or vomiting was present. The past history and family history were irrelevent. A review of systems revealed no other complaints. Physical examination. T.100. P.90, R 20, BP 120/56. Head and neck, negative. Lungs, clear to percussion and auscultation. Heart, no murmurs or enlargement. Abdomen, tenderness in the right lower quadrent over McBurney's point. Spasm of the adominal muscles. Moderate rebound tenderness was present. Genitalia were normal and there were no herniae. Rectal examination, there was tenderness on the right, but no mass was felt. Laboratory examination. Blood, Wbc 16,000. Pmn; 90% segmented forms, 1% nonsegmented; 9% lymphocytes. Kahn test negative. Urine: Sp. Gr. 1.022. Albumin and sugar negative. Microscopic examination: occasional leucocyte, no red blood cells.

Figure 1. Photographs of the surgical specimen, showing the two faceted stones in the proximal portion of the appendix.

Operation. An appendectomy was performed through a McBurney incision. The appendix was acutely inflamed in the distal one-half. The proximal half was hard and tense. The appendix was removed without difficulty. Pathological findings. The specimen consisted of a large swollen appendix which measured 8 cm. in length and 2 cm. in its greatest diameter. The serosal vessels were injected throughout and the terminal portion appeared acutely inflammed. Upon opening the appendix the proximal had contained two faceted brown calculi (Figure 1). Each calculus measured 1 cm. in diameter. They were quite hard and when sectioned the calculi appeared to be laminated. This characteristic could also be seen in an x-ray of the calculi (Figure 2). The center of each contained fecal material. On drying, the calculi changed from a dark brown to white. Analysis showed the calculi to contain calcium phosphate. Microscopic examination of the sections of the appendix showed an acute inflammatory process in the distal one-half.

DISCUSSION

In addition to the difficulty in diagnosis that may be occasioned by a calculus in the appendix, one may also have post operative complications caused by the presence of the foreign body. The two most common complications are rupture of the appendix, allowing the calculus to enter the peritoneal cavity[9] and a draining sinus tract to the appendix.[10,11]

In the case presented, no difficulty in diagnosis was encountered as the history and physical findings suggested acute appendicitis. The two calculi in the appendix were incidental findings at the time of operation. No complications resulted.

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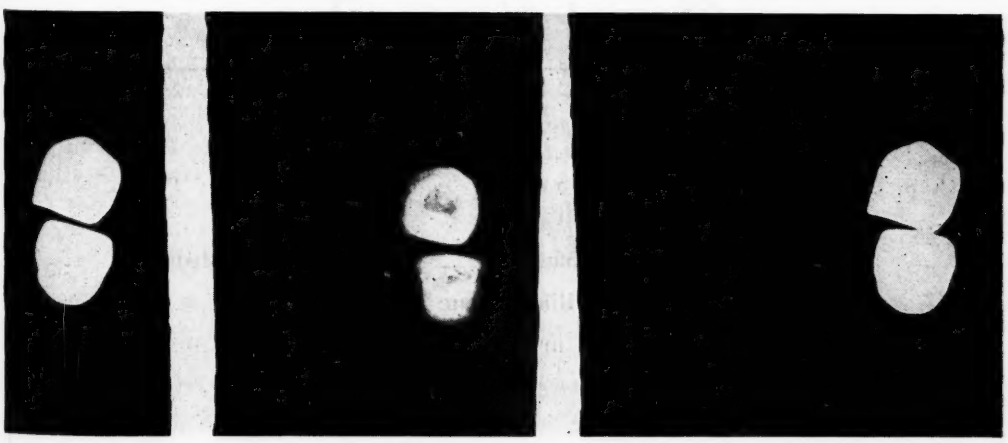

Figure 2. Three x-rays of the surgical specimens. These show the lamination of the calculi as well as their shape and size on an x-ray plate.

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It is wise to assume that all subjects who show a positive tuberculin test before the age of three years have active infection. In such children, the infection has hardly had time to become inactive. Joseph D. Wassersug, M.D., N.E. Jour. Med., July 3, 1947.

In regions where histoplasmin sensitivity is widespread, pulmonary infiltrations as well as calcifications are frequently nontuberculous, and can be differentiated from tuberculosis only by skin tests at present. Michael L. Furcolow, M.D., Herbert L. Mantz, M.D. and Ira Lewis, M.D., Pub. Health Rep., Dec. 5, 1947.

A hospital would not fail to provide a patient with a routine urinalysis and yet it is stated that only 0.4 per cent of cases of diabetes are discovered by such a routine procedure. The amount of significant tuberculosis discovered by providing a routine x-ray is much larger. It is also said that less than 1 per cent of patients provided a routine blood count have a blood dyscrasia. Less syphilis is found by providing routine Wassermanns than significant tuberculosis by providing a routine chest x-ray. Allan Filek, M.D., 1947 Trans., NTA.

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INDUSTRIAL HEALTH

Occupational Disease in Differential Diagnosis

H. T. Castberg, M.D.—USPHS

A patient's occupation is frequently a significant clue to his physical condition. A knowledge of his work and work history and the materials to which he is or has been exposed may be all important in the differential diagnosis of an illness.

To obtain information concerning these factors, a careful occupational history must be a part of the present and past medical history. The occupational history must be detailed and include the patient's total work history. Not only is the present work important but information must be obtained of all his previous jobs back to the time he left school or took his first job.

From experience it has been found that it is better to obtain information concerning the present work first. Most persons are able to give data concerning their present occupation in more detail and more accurately than they can for previous occupations.

Next, information is obtained concerning the previous job. Each previous employment is then investgated and recorded in reverse chronological order.

It is more logical to ask a person, "What is your present work, what do you do now?" than to ask him immediately to recall work he did several years ago. He is much more likely to remember details of employment in previous jobs after he has talked about the more recent one.

When an occupational history is being taken, it is useless, many times, to learn merely the name of the job. If a man says he is a molder in a foundry, it has no significance unless the physician is acquainted with the work of a molder and knows what the specific conditions are surrounding that particular job.

In obtaining an occupational history, the purpose is to discover what in the working environment will affect the health of the worker. It is important to learn (1) the number of years or months spent at each occupation; (2) the hazardous materials in the form of dusts, fumes, gases and vapors, with which he works; (3) the concentrations of these materials in the atmo-

sphere; (4) the length of time of exposure to these materials each day; (5) if there is exposure to excessive noise, heat, glare, ultraviolet rays, radium or x-ray; and (6) what control measures are used to reduce or eliminate exposure, and are these protective measures effective.

All of these items are important in evaluating the significance of an occupational exposure. For example, serious illness can be produced by exposure to lead compounds in the manufacture of storage batteries. Work with the dust of lead compounds when uncontrolled by protective measures such as local exhaust ventilation is very hazardous. However, the same job, when proper local exhaust ventilation is provided is perfectly safe. Similarly, even if local exhaust ventilation is provided, the job is not safe unless the ventilation equipment is in proper working order and is doing the job it is designed to do.

Every physician cannot visit the plant where each patient works, but in many instances such visits are extremely valuable. Certainly, if there is some doubt about occupational origin of an illness, such a plant visit is essential. In addition to the plant visit it is sometimes necessary to obtain information on the concentration of a hazardous dust fume, gas, or vapor in the workroom atmosphere. This information can only be obtained by proper industrial hygiene air sampling procedures. In many instances the information may not be available from the plant but the State or local industrial hygiene division may have it. If the work has not actually been done in the particular plant the industrial hygiene division should be able to provide this information after a study of the plan has been completed.

According to occupational disease reports received by health departments it is apparent that too often physicians handle occupational diseases in a much too empirical fashion. If the patient indicates that he is working with lead compounds the diagnosis is much too frequently given as lead poisoning without adequate investigation or study.

It is probably understandable why incompetence exists in connection with occupational disease diagnosis. One reason is that very little attention is given to occupational diseases in medical education. Another is the fact that in past the usual practicing physician only occasionally was confronted with an industrial case of this type and therefore takes little specific interest in it. But now the average physician sees many more cases of occupational origin because of industrialization of almost all sections of the country. Therefore it is important that every physician understand the diseases which can be produced by industrial exposures.

The diagnosis of these diseases is not much different from the diagnosis of other diseases of nonoccupational origin. Each toxic substance used in industry has a specific action on the internal organs or systems and presents specific symptom complexes and signs which are known. To be sure, there are many new materials which are used in industry whose effects are not as yet well known. However, work is constantly being done by research groups to give us that information.

A large heavy exposure to benzol will produce symptoms and signs of neurological origin while long standing "chronic" exposure will cause probably none of the neurological symptoms but will produce definite hematopoietic effects such as anemia and an aplastic blood picture.

PROBLEMS IN DIFFERENTIAL DIAGNOSIS

It is interesting and informative to notice how materials which cause occupational diseases produce symptoms and signs very similar to other diseases of non-occupational origin and must be considered in any differential diagnosis.

Blood.—Stippled cells, for instance, are found in exposures to lead, arsenic, mercury, aniline and nitrobenzene, but are also found in the blood of patients with any disease causing destruction of red blood cells, such as many anemias and leukemias.

The blood may exhibit the picture normally associated with aplastic anemias from excessive "chronic" exposure to benzol. This is an extremely toxic material which is used in many industrial processes. Exposure to radium, x-rays, and gamma rays by action on the system may produce a similar picture.

Polycythemia may be present from exposure over an extended period of time to industrial hazards which cause inadequate oxygen supply, such as carbon monoxide, the cyanides, lowered oxygen tension, as well as cobalt. The nonoccupational diseases which must be differentiated on the basis of this finding alone are polycythemia vera, effects of high altitude, and certain chronic cariac and pulmonary disease.

Nervous System.—One of the classical signs

of lead poisoning is wrist drop or ankle drop. If a patient exhibits this sign the cause must be differentiated from musculospiral nerve paralysis or peroneal nerve paralysis which can be produced by other nonoccupational causes such as trauma or tumor.

Tremor is a common sign which is seen in hyperthyroidism, parkinsonism, and senilty. But it is also an extremely important sign when associated with other symptoms and signs in mercurialism and manganese and carbon disulphide poisoning.

Manganese can produce gait disturbances and other neurological signs which may be indistinguishable in themselves from tables dorsalis or multiple sclerosis.

Severe character changes can be produced by manganese, such as scanning speech or marked irritability, irascibility and extreme nervousness by mercury or carbon disulphide exposure. Even psychoses are produced by such industrial poisons as carbon disulphide. Mercurialism is almost indistinguishable from hyperthyroidism.

Exposures to such solvents as trichlorethylene, carbon tetrachloride and others have a narcotic action similar to alcohol. Cases have been reported in which workmen have been arrested for drunkenness when the worst that has happened was that they had been working over a degreasing tank of trichlorethylene.

Severe encephalitis can be produced by heavy exposure to lead which is indistinguishable from other encephalopathies.

Lungs.—The differential diagnosis of pulmonary disorders causes perhaps most difficulty. Pneumoconioses in various stages or from different causes have varying X-rays appearances. They can be easily confused with such infectious diseases as tuberculosis, mycotic pulmonary infections and pneumonia.

Mitral stenosis exhibits an appearance on chest X-ray similar to early silicosis or abestosis. Miliary tuberculosis can be confused with nodular silicosis or siderosis. The noduloconglomerate fibrosis of advanced silicosis may be mistaken for malignant tumors.

Liver Damage.—Liver damage is a result of systemic poisoning from such industrial materials as the chlorinated hydrocarbons of these solvents. Carbon tetrachchloride is perhaps the most commonly encountered. It is amazing when the toxic properties are so well known that it is used in many industrial plants with no regard to its potential hazard. There are many prepartions used industrially which contain carbon tetrachloride mainly to reduce flammability; its presence, however, is not generally made known.

The chlorinated diphenyls and naphthalenes which are used as dielectics also cause liver damage when systemic poisoning occurs from them. In severe cases these will manifest themselves by causing jaundice or high icteric indexes but may be detected by other means when the damage is less severe. In these instances a knowledge of exposure is essential for differential diagnosis from other disease such as infections hepatitis or cholelithiasis and thus to prevent errors in diagnosis and treatment.

Kidney Damage.—Kidney damage is a common result of industrial intoxication and must be differentiated from kidney damage from other causes, such as Bright's disease and urinary infections. Poisoning from chlorinated hydrocarbons, many of the metals and many other industrial substances cause the appearance in the urine of albumen, casts, red cells, and other products which indicate kidney damage.

Skin.—The dermatitis of industry is practically synonymous with contact dermatitis. Most of the dermatoses which develop in industry are the result of contact with either primary irritants or sensitizers. The cause of these dermatoses must be determined in order to effect a cure. Since, in most intances, the most important means of curing a contact dermatitis is removal of the patient from the cause, it is obviously extremely important to know whether the dermatitis is caused by some irritant in the patient's working environment or his home.

Acne, for instance, may be merely acne vulgaris which has no industrial cause. But if it is found on the arms or ventral surfaces of the thighs, where oil can come in contact with the skin, the chances are that it is industrial.

The chlorinated diphenyls and naphthalenes produce in persons exposed to them chloracne which may be confused at times with acne vulgaris. This, however, is an entirely different type of skin reaction which requires different treatment.

One of the commonest errors in dermatitis cases is the mistaken identification of industrial contact dermatitis and the subequent over-treatment which is so frequently given. As was men-

tioned before, the best cure is removal from the cause followed by bland soothing treatment. Frequently, the dermatitis persists and is made worse by the intensive treatment given.

Mouth and Teeth.—The mouth is frequently a site for early recognition of effect from occupational hazards. Stomatitis and excessive salivation are early signs of mercurial poisoning. If the physician does not learn from the patient's occupational history that there is an exposure to mercury in his work the condition might well be and frequently is treated is an infection or nutritional deficiency.

The metallic line which appears on the gingival margins is commonly an early sign of plumbism, but it may also be an indication of extensive treatment with bismuth compounds. It is important to learn the cause.

Workmen exposed to high concentrations of acids in their working environment develop characteristic tooth erosions and caries. These must be differentiated from caries from other causes.

Eyes and Nose.—Cataracts may result from occupational exposures. Thus, glass blowers after some years' exposure to the red glowing glass have been known to develop cataracts and must be distinguished from other causes of cataract.

Ultraviolet rays cause severe conjunctivitis with marked photophobia and edema. This must be distinguished from other types in order to give proper treatment. This can only be done by investigating the patient's work.

Perforated nasal septum is a common result of exposure to dichromate mists in an occupation such as electroplating, or from exposure to certain arsenic compounds. It is unfortunate to suspect syphilis when a perforated septum is found which is caused by an industrial exposure.

Abdominal Colic.—One of the symptoms which has caused more confusion than many others is the abdominal colic produced by exacerbations of acute lead poisoning. There have been an unfortunately large number of patients who have been subjected to abdominal surgery for appendectomy which was absolutely unnecessary. If the surgeon had inquired into the occupational history and made a few laboratory tests it would have been obvious that the condition was not appendicitis but lead colic.

These examples emphasize again the importance of learning from the patient the work he does and the materials with which he works.

Unless such a comprehensive history is obtained, erroneous diagnostic assumptions will be almost unavoidable.[1]

Industrial Hygiene Newsletter, June 1948

[1]R. T. Johnstone, Industrial Medicine and Industrial Hygiene, Mosbys, St. Louis, 1947.

ON BEING A COMMITTEE MEMBER

It might be interesting to consider the ideal member of a committee. What are his qualifications, and how does he meet his responsibilities?

First, he should have the interests of the medical profession at heart.

Second, he will give thought and study to the subjects which come up before the committee and will not be just one of those present.

Third, he will make it a point to be on hand for all meetings, unless his professional duties require him to be elsewhere.

Fourth, he will not allow one or two men to assume the entire burden for developing plans, but will contribute ideas of his own.

Fifth, he will do what he can to make the meeting orderly and not overlong.— From *Medical Annals,* District of Columbia.

NEWS OF THE STATE

ADAMS

Ninety Years of Age.—Dr. E. B. Montgomery, Quincy, observed his ninetieth birthday, May 11. Still active, Dr. Montgomery has practiced medicine for seventy years in Quincy. He is said to be the oldest member of the Adams County Medical Society.

Walter Stevenson Honored.—Dr. Walter D. Stevenson, Quincy, President-Elect of the Illinois State Medical Society, was guest of honor at a dinner given by the Adams County Medical Society at the Hotel Lincoln-Douglas, July 10. Included among the eighty-two persons present were Drs. F. Garm Norbury, Jacksonville, Councilor of the Sixth District, Illinois State Medical Society, and Dr. G. C. Otrich, Belleville, Councilor of the Tenth District. Dr. Stevenson, who has served as councilor for the Sixth District and as Chairman of the Council of the Illinois State Medical Society, was presented with a scroll and a silver bowl. The scroll, signed by the seventy-one members of the county medical society was inscribed in part: "This scroll is presented to you by the Adams County Medical Society in recognition of your meritorious service to the society of which you are a member. We wish you continued success as president of the Illinois State Medical Society. You are richly deserving of the honor." Dr. Newton DePu was chairman of the Committee on Arrangements for the occasion, according to the Quincy Herald-Whig.

CLAY

Ground Breaking Ceremonies.—Ceremonies were held recently to break the ground for the new Clay County Hospital. Included among the speakers at the ceremony were Dr. Joseph Mountin, U. S. Public Health Service, Dr. N. W. Bowman, Flora, and Dr. Roland R. Cross, state director of public health and Dr. Henrietta Herbolsheimer, both of Springfield.

COOK

Council on Rheumatic Fever.—The Council on Rheumatic Fever of the Chicago Heart Association has been organized for the purpose of promoting and coordinating the study, prevention, and treatment of rheumatic fever and rheumatic heart disease in the Chicago area. The Council will consist of representatives of community organizations concerned with the rheumatic fever problem and will function as a division of the Chicago Heart Association. Dr. Stanley Gibson has been elected chairman of the Council, with Dr. H. William Elghammer vice chairman and Miss Elsa Eisendrath as secretary. The Executive Commitee is as follows: Drs. Henry G. Poncher, chairman, Stanley Gibson, Robert A. Black, Jesse Hofer, Louis N. Katz, Philip Rosenblum, G. K. Fenn (ex-officio) and Mrs. R. P. Mc Eldowney (ex-officio).

Society News.—Robert S. Berghoff will be the principal speaker at the Rotary Club, October 21, at the Hotel Sherman. His subject will be "The Business Man and His Heart".—Dr. C. O. Sappington, Chicago, addressed the general assembly of the Canadian Medical Association, June 25, in Toronto, on "Modern Methods of Health Protection in Industry" and "Prevailing Practices in Industrial Health Programs".—Dr. M. A. Pertein discussed "Education of the Cerebral Palsied Child" before the Third Annual Conference on the Education of Exceptional Children at the Illinois State Normal University, Normal, on July 28.

Appointments at Loyola.—Included among recent appointments to the Stritch School of Medicine of Loyola University are the following: Elinar Leifson, Ph.D., formerly of Baltimore, chairman of the department of bacteriology; Martin B. Williamson, Ph.D., Boston, assistant professor of biochemistry; Leslie A. Emmert, B.A., and Harold D. Fish, M.S., department of anatomy; Dr. Rocco V. Serritella and Dr. Edward T. Wilson, department of urology; Drs. John M. Dudek, Gould A. Andrews Jr., Albert G. Denten, Charles W. Pfister and Walter J. Kawula, department of medicine; Dr. George T. Stanton, department of neuropsychiatry; and Dr. Frederick R. Schwartz, department of dermatology.

Poliomyelitis Team Available for Assistance.—The Northwestern University Medical School's poliomyelitis team, headed by Dr. Emil D. W. Hauser, assistant professor of bone and joint surgery, is on call to aid poliomyelitis-stricken communities anywhere in the United States. The crew is assigned to duty and its expenses paid by the National Foundation for Infantile Paralysis. This is the crew's fourth summer of duty. Last year it served in Boise, Idaho, and before that in Rockford and Peoria, Ill. Its functions include medical consultation to doctors of the community, teaching local hospital nurses bed posture for patients and the administration of hot packs; instruction in physical therapy technics of muscle reeducation, and general functional exercises. The crew is prepared to stay on duty up to six weeks until its work in organization, teaching and medical assistance is completed. After that, the assistant orthopedist in the team remains in the stricken community as long as he is needed. Members of the 1948 team, in addition to Dr. Hauser, are Dr. Arthur F. Abt, associate professor of pediatrics; Dr. Erwin J. Cummins, orthopedist; Miss Meredith Nordschow, instructor in physical medicine; Miss Ann Prochaska, chief physical therapist, and the Misses Bernice Gotaas and Lucille Kurzawa, physical therapists. The other three teams operating under the National Foundation are those at Stanford and Harvard Universities, and the D. T. Watson School of Physical Therapy, Leetsdale, Pa.

Dr. Grulee Gives Library to Crerar.—Dr. Clifford G. Grulee, Evanston, Secretary of the American Academy of Pediatrics, and prominent peditrician, has donated his personal collection of books on children's disease to the John Crerar Library. Centerpiece of the rare volume part of the gift, consisting of some 300 works in Latin, German, French, Italian and other languages is a parchment bound volume of "Libellum de Egritudinibus Infantium" (Booklet on the Illnesses of Infants), by Paulus Bagellardus de Flumine, published in 1472. One of five known copies in the United States, it is the progenitor of all books on pediatrics and perhaps of all medical volumes, the Chicago Tribune reported.

Promotions at Illinois.—Included among recent promotions at the University of Illinois College of Medicine are: Dr. Cecil A. Krakower, professor of pathology. He also will serve as associate pathologist in the University's 428-bed research and educational hospitals; Dr. F. H. Squire, clinical professor of radiology (Rush). He has been a member of the University faculty since 1941, and served for a time as acting head of the department of radiology.

The rank of associate professor has been given to Dr. M. I. Grossman, in physiology, and Dr. Georgiana Theobald, in ophthalmology. Dr. Grossman is conducting research in physiology with special emphasis upon physiology of the gastrointestinal tract, and is author or co-author of more than 70 papers in that field. Dr. Theobald's research activities have involved anatomical studies of the canal schlemm of the eye.

Assistant professorships have been awarded to four. They are Dr. M. J. Brunner, dermatology; Dr. H. R. Catchpole, physiology; Miss Ruth Coleman, medical illustration; and Dr. J. S. Haas, ophthalmology.

Gift to Northwestern.—A gift of $70,000 to Northwestern University from Sterling Morton of Lake Forest, chairman of the board of the Morton Salt Company, was recently announced.

Mr. Morton, who is past president of the Illinois Manufacturers Association, placed no restriction on the gift. It is expected that the trustees will add the sum to the fund of more than $2,000,000 bequeathed to Northwestern in 1940 by Mr. Morton's stepmother, the late Mrs. Joy Morton.

Terms of Mrs. Morton's will provided that the bequest be used for medical research and for the erection and endowment of the Morton Memorial Hospital, which the University plans to build as a unit of its developing medical center on the Chicago campus. Construction of the hospital has been delayed by abnormally high building costs.

Specialty Society Election.—At the annual meeting of the Chicago Gynecological Society, June 18, 1948, the following officers were elected: Drs. Herbert E. Schmitz, president; Eugene A. Edwards, president-elect; John I. Brewer, vice-president; Edward M. Dorr, secretary; Fred O. Priest,, treasurer; William G. Cummings, pathologist; and Edwin J. De Costa, editor.

Grants for Research.—Recent grants to the University of Illinois include the following: By the National Foundation for Infantile Paralysis, Inc., $4,695 to the University of Illinois College of Medicine for the purpose of completing a program of research to evaluate a new muscle stimulator as a means of treating poliomyelitis, $12,000 to the Division of Services for Crippled Children for making a recording of a film on poliomyelitis, and $6,080 to the College of Medicine for studies in electrical stimulation of muscles of poliomyelitis patients and electromyographic studies of poliomyelitis patients; by the American Cancer Society, $18,935 to the College of Medicine in support of cytochemical

studies of relations between nucleus and cytoplasm; by Mead Johnson and Company, $7,000 to the College of Medicine to support fellowship in research in biochemistry in the department of pediatrics; and by the family of the late Mrs. Margaret A. Gruber, Chicago, $400 to the University of Illinois Hospitals for research into the causes and cure of leukemia.

Loyola University Receives Million Dollar Gift.—At the opening of Loyola University's medical-dental school drive June 15 at the Stevens Hotel, the university received a $1,000,000 gift from Frank J. Lewis, Chicago industrialist. Mr. Lewis' gift will be used to establish a trust which is expected to yield $50,000 a year for the medical school's operating expenses. He has also donated the site for the university's proposed Stritch School of Medicine in the west side medical center.

DU PAGE

Personal.—Dr. E. H. Kupke, Naperville, was recently elected a director and member of the governing board of the Du Page County Family Service Association. Dr. Kupke is president of the Du Page County Medical Society.

FRANKLIN

Personal.—Dr. R. C. Steck, Christopher, has been named a member of the advisory board of the Institute of Juvenile Research, Chicago. Dr. Steck is former president of the Franklin County Medical Society.

GRUNDY

Physician Honored.—Dr. J. J. Coady, Minooka, was honored on his seventy-fourth birthday, July 3, when the citizens of the town held a picnic at McKinley Woods park, near Channahon. Dr. Coady graduated at the Chicago College of Physicians and Surgeons in 1907. He practiced in Mokena until 1912 when he went to Minooka

KNOX

Alexander William Burke Heads Health District.—Dr. Alexander William Burke, formerly connected with the Shelbyville District, Illinois Department of Public Health, has been named head of the Galesburg Branch, District number 4, comprising the counties of Knox, Warren, Henry, Mercer, Henderson, Hancock, McDonough and Bureau. Dr. Burke was formerly attached to the Macomb District office. After it was discontinued he went to Springfield where he was head of the district number 10 carrying a concurrent appointment of acting chief of the state division of tuberculosis control.

Unfortunately, in 1944 the Illinois Medical Journal erroneously reported that Dr. Burke died of a heart attack in Memphis. The Journal regrets that Dr. Alexander William Burke, University of Illinois, 1909, was confused with a Dr. Alexander Walter Burke, whose death occurred at that time.

LAWRENCE

Fifty Years of Practice.—On June 30, Dr. William Robert Mangum was presented with the emblem and certificate of the Fifty Year Club of the Illinois State Medical Society. Dr. Harlan English, Danville, Councilor of the Eighth Distict, made the presentation and Dr. Andy Hall, Mount Vernon, President of the Fifty Year Club, spoke. Dr. Mangum has served as county coroner and president of the Lawrence County Medical Society. He opened his first office in Elco. He then practiced for a while in Buncombe before moving to Bridgeport in July, 1912.

MACON

Ninety Years of Age.—Dr. W. T. McLean, Maroa, observed his ninetieth birthday, July 31. The physician retired in 1944 after sixty-three years of practice. He was president of the Maroa School Board of many years, president of the local grade school board and mayor of Maroa in 1895 and 1897.

MADISON

Personal.—Dr. Groves B. Smith, medical director and superintendent of Beverly Farm, was host to the Madison County Medical Society at a buffet supper, July 2.

Public Plaque Honors Physician.—On July 25 a public ceremony was held in Livingston to honor Dr. R. C. Berry who has practiced there for thirty-four years. The occasion marked the physician's sixty-second birthday. A feature of the ceremony, according to the Edwardsville Intelligence, was the dedication of a mahogany granite stone bearing the inscription: "In honor of Dr. R. C. Berry, our community doctor since 1914."

Toward the top of the stone is the silhouette of a horse and buggy. Funds for the memorial were raised by popular subscription through civic, labor and fraternal organizations sponsors of the community.

PEORIA

Annual Dinner.—Dr. David Salkin, Hopemont, W. Va., was the principal speaker at the annual dinner of the Peoria County Medical Society recently. His subject was "Treatment of Pulmonary Tuberculosis."

ROCK ISLAND

Physician Honored.—Dr. L. L. McIntyre was given a surprise party recently to honor his many years of service in New Boston. He was presented with an engraved pen and pencil set.

SANGAMON

Corporation Charter Issued.—The Sangamon County Medical Society was issued a corporation charter recently. Incorporators are Dr. Kenneth H. Schnepp, Dr. William DeHollander and Dr. Frank M. Davis, all of Springfield.

WINNEBAGO

Society News.—Dr. Leon Unger, Chicago, addressed the Winnebago County Medical Society recently on "Bronchial Asthma."

Norman Bullock Goes to California.—Dr. Norman C. Bullock, who has practiced medicine in Rockford for nineteen years and who served as city health commissioner from 1933 to 1937, has been named a member of the staff of the San Diego, California, Health Department. Dr. Bullock is a past president of the Winnebago County Medical Society.

Society News.—At the recent meeting of the American Association of Industrial Physicians and Surgeons in Boston, Dr. Harold A. Vonachen, Peoria, was elected president; Dr. Frederick W. Slobe, Chicago, secretary; and Dr. Edward C. Holmblad, Chicago, treasurer.

GENERAL

Jim Leary Opens Own Office.—Mr. James C. Leary, Public Relations Consultant of the Illinois State Medical Society, opened his own office at 185 North Wabash Avenue, Chicago (Financial 3245), July 1. Mr. Leary has for the past three years been associated with Lawrence C. Salter Associates, Chicago. He was formerly President of the National Association of Science Writers and formerly served as Science Editor of the Chicago Daily News. In his public relations work, Mr. Leary specializes entirely in educational campaigns in medical and other scientific fields.

Heart Association Names Field Director.—Appointment of Marion E. Gridley as field director of the Illinois Heart Association is announced by Dr. Harry Durkin of Peoria, president of the Association. The organization plan of the Illinois Heart Association contemplates the formation of regional units to carry on at the local level the activities of the Association and its parent organization, the American Heart Association. This program includes, according to Dr. Durkin, a broad program of research in diseases of the heart and circulation, the education of physicians and of the lay public, and community services for the benefit of the victims of heart disease. A state-wide fund-raising campaign to implement this program is planned for next February.

"Heart disease is the most challenging problem which faces physicians, labor, industry, and the general public today," Dr. Durkin points out. "There were 34,179 deaths from heart disease in Illinois last year, or 37 per cent of the deaths from all causes. But in spite of these grim statistics, the fact is that if one has heart trouble today, he is better off than he would have been at any previous time in the history of the world. This is because through the miracles of modern medicine and surgery much can be done for hearts that was never before possible. Some forms of heart disease that were incurable can now be cured or remedied so effectively that a happy, useful life is assured. Prevention, the great goal of heart research, may become a reality in the not too distant future. To speed this day is the objective of the Illinois Heart Association."

Society Created to Honor Physicians.—At a medical alumni banquet of Johns Hopkins University, honoring Drs. Helen Taussig and Alfred Blabcock, Baltimore, a National Johns Hopkins Medical Association was organized with Dr. George H. Gardner, Chicago, president, and Dr. Francis H. Redewill, San Francisco, secretary-treasurer. This new organization will take active part in social meetings of the medical alumni as well as tie in with the university's activity of developing substantial funds for new buildings.

Food and You.—The Second Annual Public Meeting on Nutrition, sponsored by the Chicago Medical Society and cooperating organizations, will be held at the John B. Murphy Memorial Amphitheater, 54 East Erie Street, Chicago on October 13 and 14, 1948.

The program has been planned to bring the public information concerning all phases of nutrition with emphasis on the health and economic aspects. An outstanding group of speakers has been secured to present the program and to answer questions from the audience during the round tables at the close of the afternoon sessions.

The public is cordially invited to attend any or all sessions. There will be no admittance fee.

October 13

10:00 A. M. to 12:30 P.M. — Colored sound movies on Conservation of Natural Resources, Soil, Agriculture, Dairy Farming, Erosion, etc.

1:30 P.M. — "The Wedding of the Sciences in Human Nutrition" — *John P. O'Neil, M.D.* Chairman Nutrition Committee, Chicago Medical Society.

2:10 P.M. — Your Meat & You, *J. Sotola,* assistant director, Livestock Bureau, Armour & Co., Chicago.

3:00 P.M. — "A National Public Health Nutrition Program" — *W. H. Sebrell, Jr., M.D.,* Director Experimental Biology and Medical Institute, U.S.Public Health Service, Bethesda, Maryland.

4:00 P.M. — "Your Dollar and Your Diet" — *Thelma Porter, Ph.D.* , Home Economics Department, University of Chicago.

4:50 P.M. — "Round Table Discussion and Questions from the Floor."

8:00 P.M. — "Maternal Nutrition and Child Health" — *Icie May Hoobler, Ph.D.,* Director, Research Laboratory Children's Fund of Michigan.

October 14

10:00 A.M. to 12:30 P.M. — Colored sound movies on Conservation of Natural Resources, Soil, Agriculture, Dairy Farming, Erosion, etc.

2:00 P.M. — "Obesity — A Prevalent Form of Malnutrition" — *William J. Darby, M.D.,* Professor of Medicine, Vanderbilt University Medical School.

3:00 P.M. — "Caloric Nutrition" — *Ancel Keys, M.D., Ph.D.* Professor of Physiological Hygiene, University of Minnesota.

4:00 P.M. — "Fat Free Certified Milk" — *Christian E. Segard, M.D.,* Medical Director, Wisconsin Alumni Research Foundation, New York City, N.Y.

5:00 P.M. — Round Table Discussion and Questions from the Floor.

8:00 P.M. — "Public Health and Food" — *Herman N. Bundesen, M.D.* President, Chicago Board of Health.

Mississippi Valley Meeting.—The annual meeting of the Mississippi Valley Medical Society will be held at the Hotel Abraham Lincoln, Springfield, September 29-October 1, under the presidency of Dr. Willard O. Thompson, Chicago. The first day meeting will be an all day St. Louis program with the following speakers: Drs. James Barrett Brown, "Management of Compound Facial Injuries"; Grayson Carroll, "Retro-Public Prostatectomy; the Newer Anatomic Approach"; Julius Jensen, "A Discussion of the Use of Various Cardiovascular Drugs"; James L. Mudd, "Bronchogenic Carcinoma" R. O. Muether, subject not announced; Wm. A. Knight, Jr., "Chronic Recurrent Pancreatitis"; Edward H. Reinhard, "Chemotherapy of Malignant Neoplastic Disease"; Wendell G. Scott, "Advances in the Radiographic Diagnosis of Congenital Heart Disease"; and Robert Dean Woolsey, "Low Back Pain, Diagnosis and Treatment." Included among the speakers before the society will be Dr. Irving B. Brick, Washington, D.C., "Clinical Significance of Hiatus Hernia"; Anton Julius Carlson, Ph.D., Chicago, "Diet and Life Span"; Dr. L. T. Coggeshall, Chicago, "Diagnosis and Treatment of Parastic diseases," "Clinico-Pathologic Conference"; Dr. Arthur R. Colwell, Evanston, "Comparison of Intermediate Insulins", "Clinico-Pathologic Conference"; Dr. Percy E. Hopkins, Chicago Round Table Luncheon Moderator; Dr. Mayo H. Soley, Iowa City, Iowa,"Radio-active Iodine, Its use in Thyroid Disease"; Dr. Waltman Walters, Rochester, Minn., "Surgical Lesions of the Pancreas", "Cancer of the Stomach" and "Clinical-Pathologic Conference"; Dr. William B. Wartman, Chicago, "Clinico-Pathologic Conference"; Dr. A. W. Adson, Rochester, Minn., "Surgical Lesions of Spinal Cord; Diagnosis and Treatment"; Dr. Paul C. Bucy, Chicago, "Simulation of Multiple Sclerosis by Herniated Cervical Intervertebral Discs"; Dr. Fremont A. Chandler, Chicago, "Fractures of Upper end of Femur"; Dr. Jerome R. Head, Chicago, "Surgical Treatment of Stricture of the Esophagus"; Dr. Norris J. Heckel, Chicago, "Cystitis: The Causes and Treatment"; Dr. Paul S. Rhoads, Chicago, "Clinical Experience With a New Sulfonamide", "Clinico-Pathologic Conference"; Dr. T. H. Seldon, Rochester, Minn., "Recognition and Treatment of Reactions to Transfusions Administered During Surgery"; Dr. John B. Youmans, Chicago, "Nutritional Anemias" and Dr. Nathaniel G. Alcock, Iowa City, Iowa.

The third day meeting will also include scientific and technical exhibits. Dr. Harold Swanberg is secretary of the society.

Population in State Public Welfare Institutions.—The population present in all institutions of the Department of Public Welfare June 30, 1948 was 46,420 an increase of 1,544 over June 30, 1947. On the books of all institutions including those present, in family care, paroled, escaped and all other absences were 53,259.

The greatest increase over June of last year was in the nine hospitals for mentally ill, the population of which rose 1,386. There were 1,181 admissions as compared to 987 in June 1947. For the fiscal year July 1, 1947 through June 30, 1948 there were 12,840 as compared to 10,678 for the fiscal year July 1, 1946 through June 30, 1947. In these hospitals were 34,060 patients and a total of 37,242 on the books.

The institutions for mental defectives — Dixon State Hospital and Lincoln State School and Colony showed an increase of 227 over the previous year. The population present was 9,188 with 10,602 on the books.

There were 379 in Security Hospital, an increase of 5 over the same month last year.

At Neuropsychiatric Institute, where most admissions are for tempory detention for special treatment, 66 patients were present June 30, 1948.

Clinics for trachoma control and prevention of blindness, held in southern Illinois, provide treatment not only for trachoma but glaucoma and other eye diseases. During June, 251 received treatment for trachoma, 53 for glaucoma and 505 for other eye ailments. Sixteen were hospitalized for operations.

The Chicago Community Clinic reported 683 interviews for the month. Six hundred and fifty-five were formerly patients in state hospitals, 278 at Elgin and 248 at Manteno.

The Eye and Ear Infirmary dispensary listed 18,862 treatments in June, and 459 persons were admitted to the hospital.

The Welfare Institutions reported 1,361 new cases and 5,809 old dental cases for June.

The Boys' Training School, Girls' Training School and Women's Reformatory reported 909 juvenile delinquents, felons and misdemeanants present June 30, a decrease of 224 as compared to a year ago. There were 683 juvenile delinquents present June 30, a decrease of 224 as compared to 881 one year ago.

On June 30, the children from the School for the Deaf and Blind were on summer vacation. There were 292 children present at the Soldiers' and Sailors' Children's School. The Children's - Hospital-School for physically handicapped children had an enrollment of 75. Sixty-three were present, an increase of 34 over a year ago.

The Industrial Home for the Blind, Soldiers' Widows' Home and Soldiers' and Sailors' Home reported 1,351 present, an increase of 149 over a year ago.

The Veterans' Rehabilitation Center in Chicago, and Veterans' Clinics in Urbana and Aurora received

78 new cases during the month. There were 1,112 visits to the Clinic in Chicago, 176 in Urbana and 50 in Aurora. Since the opening of the Center, 4,553 veterans have received treatment in Chicago, 120 in Urbana and 18 in Aurora.

The Division of Veterans' Service reported 2,688 veterans present in all State Welfare Institutions June 30.

The Institute for Juvenile Research interviewed 235 new cases, 91 from Cook County and 39 from Cook County Juvenile Court in June. A total of 530 children and 675 adults, old and new cases, were examined and received treatment.

For the first time reports have been compiled from data furnished by the Division of Supervision of Delinquents. During the month of June, 70 placements were made. These were placed in boarding foster homes, boarding homes, foster homes and welfare homes. For the fiscal year July 1, 1947, through June 30, 1948, 710 placements were made.

In addition 1,263 patients were interviewed in out-patient clinics, and there were 2,251 visits to these clinics.

HEALTH DEPARTMENT ACTIVITIES

First Statewide Fly Control Program.—Nearly all Illinois counties are participating in the first statewide fly-control program which is being sponsored by the University of Illinois extension service, the Illinois Agricultural Association, the Illinois natural history survey, and the state department of public health, according to Dr. Roland R. Cross, state director of public health. This widespread program actually commenced last year when a mobile DDT spraying unit toured most of Illinois, demonstrating, in cities and on farms, the latest methods of fly-control. In addition, this unit attended many county fairs and the Illinois state fair. Through the spraying of the fairgrounds, fly prevalence in these areas was decreased to nearly zero.

Again this year, this unit is giving demonstrations in communities throughout the state. This program has done much to enlist the aid of local groups in the all out fight for a fly-free Illinois. Pointing out that flies are known carriers of more than a score of infectious diseases, Dr. Cross urges the residents of Illinois to continue to cooperate in the program to rid the state of flies.

News of Personnel.—Dr Richard F. Boyd has resigned his post as chief of the Division of Local Health Administration to accept a position with the Health and Welfare Fund of the United Mine Workers of America at Washington, D.C. — Dr. Charles F. Sutton has been appointed to the position of chief of the Division of Local Health Administration to succeed Dr. Boyd. Dr. Sutton was serving as assistant chief. — Dr. D. F. Rawlings, health officer for District No. 4, Galesburg, has accepted the position of assistant chief of the Division of Local Health Administration under Dr. Sutton. On June 15, 1948, State District Health Office No. 14, at Shelbyville, was closed. Dr. A. W. Burke, district health officer, moved his headquarters to District No. 4 at Galesburg on that date.

Christian, Clark, Cumberland and Fayette Counties, which formerly comprised District No. 14, have been assigned to other districts as follows: Christian, Clark, and Cumberland Counties to District No. 11. Fayette County to District No. 16.

The health officer of District No. 11 is Dr. W. M. Talbert whose office is at 402 Macon County Building, Decatur. His telephone numbers are — office: 9512, home: 6712.

The District No. 16 health officer is Dr. Norman J. Rose, whose office is in the Highland National Bank Building, Highland. Dr. Rose's telephone numbers are — office: 375, home: 43W.

The State's Health in 1947.—The health record of Illinois for 1947 was comprehensively discussed in Health Statistics Bulletin, June 23. The year recorded the highest birth rate, 23.4 per thousand, two per thousand above the previous high mark established in 1946. About 94 percent of all the babies were born in hospitals. Only three out of every thousand babies were attended to at birth by a midwife or other non-medical practioner.

Although there were almost four thousand more deaths in 1947 than in 1946, the general death rate remained practically unchanged in rising from 11.0 to 11.2 per thousand inhabitants. The death rate remained so steady because the state's population at midyear 1947 was estimated to be 192 thousand greater than at midyear 1946. While a considerable part of this apparent increase represents the return of people from the armed services, the greatest part is due to the great rate at which births out-strip deaths. During the year, births exceeded deaths by almost 100,000, another new record, the reports states. During the year, there were only ten deaths from maternal causes for every ten thousand new babies. Influenza and pneumonia mortality increased with a combined rate for the two deseases of 39.9 deaths per hundred thousand inhabitants as compared to 37.8 in 1946. Tuberculosis mortality reached another new low with 33.7 deaths in 1947 as compared with 81.5 in 1921. Pulmonary tuberculosis was responsible for 92 percent of the 2,770 deaths from all forms of tuberculosis recorded in 1947. There were twice as many deaths from tuberculosis in males as in females.

Communicable diseases declined. Undulant fever mortality recorded five deaths in 1947 as compared to one death in 1946.

Heart disease and cancer deaths increased with heart disease rising to an all time high with 416 deaths per hundred thousand population in 1947.

Motor vehicle accidents declined and deaths by suicide remained essentially the same as in 1946 while the rate for homicides decreased slightly. Unusual deaths included in the report were two from leprosy that occurred in the Chicago area.

bringing the total for the state to six since 1921, the first year for which accurate vital records for the state are available. One death from beriberi was reported, the first since 1943. The report indicates there is reason to believe that the figure would have been higher if the beriberi heart were better recognized.

DEATHS

ALEXANDER WALTER BURKE, Chicago. Died June 4, 1944 in Memphis, Tennessee. Graduate of Loyola School of Medicine, 1916.

CORNELIA B. DE BEY, Chicago, who graduated at Hahnemann Medical College and Hospital in 1895, died in Grand Rapids, Michigan, April 3, aged 82, of cerebral hemorrhage.

HENRY BARDWELL DONALDSON, Chicago Heights, who graduated at Northwestern University Medical School in 1909, died in St. James Hospital, March 22, aged 68.

FREDERICK B. FOX, Freeburg, who graduated at St. Louis University School of Medicine in 1906, died July 21, aged 76.

EDGAR AGASSIZ GREEN, Ridgeway, who graduated at Barnes Medical College, St. Louis, in 1898, died after a prolonged illness, July 26, aged 74.

EDWARD MARCELLUS HOLMES, Chicago, who graduated at the College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1903, died in Oak Park, Ill., March 24, aged 71.

ORTON CHARLES HYSLOP, Spring Valley, who graduated at Northwestern University Medical School in 1916, died at Peoples Hospital, Peru, Ill., July 22, aged 56. Had practiced medicine in Spring Valley since 1925.

STANLEY FREDERICK JOHNSON, Chicago, who graduated at Northwestern University Medical School in 1925, died in Passavant Memorial Hospital, April 25, aged 50, of cerebral accident.

THOMAS ALFRED JONES, Zeigler, who graduated at Marion-Sims College of Medicine, St. Louis, in 1887, died July 3, aged 79. He had practiced medicine in Zeigler for 25 years.

WARREN WALKER KEENE, Lewistown, formerly of Yates City, who graduated at National Medical University, Chicago, in 1909 and College of Medicine and Surgery, Chicago, in 1911, died in St. Mary's Hospital, Galesburg, July, aged 61. He had been an invalid for over a year.

HARRY CORWIN MOSS, Carbondale, who graduated at Missouri Medical College, St. Louis, in 1898, died in Holden Hospital with which he was affiliated, March 23, aged 75, of congestive heart failure.

FRANK J. NOVAK, JR., Chicago, who graduated at the University of Illinois College of Medicine in 1914, died July 27, aged 60, of coronary sclerosis. He was a member of the senior attending staff of Henrotin Hospital and a specialist certified by the American Board of Otolaryngology.

THOMAS PHILIP O'CONNOR, Chicago, who graduated at the John A. Creighton Medical College, Omaha, in 1914, died in Wesley Memorial Hospital March 25, aged 56, of peptic ulcer. He was assistant professor of otolaryngology at Northwestern University Medical School; a specialist certified by the American Board of Otolaryngology; on the courtesy staff of the Passavant Memorial Hospital; chairman of the department of Otolaryngology, Wesley Memorial Hospital.

FRANK JOSEPH RONAYNE, River Forest, who graduated at Yale University School of Medicine in 1904, died in St. Petersburg, Fla., March 24, aged 71, of pneumonia. He was a member of the Radiological Society of North America, Inc.

EDWIN LOUIS RYPINS, Bloomington, who graduated at University of Nebraska College of Medicine in 1927, died July 4, as a result of injuries received in an automobile accident. He was 45 years old.

FRED SEYMOUR SARUK, Chicago, who graduated at Chicago Medical School in 1946, died in the Winfield Hospital March 14, aged 40, of pulmonary tuberculosis.

HIRAM JASON SMITH, Chicago, who graduated at the College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, in 1907, died in Illinois Central Hospital, February 16, aged 65, of uremia. He was clinical associate professor of ophthalmology at his alma mater; specialist certified by the American Board of Ophthalmology; chief oculist for the Illinois Central Railroad.

CHARLES FREDERICK STOTZ, Chicago, who graduated at the University of Illinois College of Medicine in 1898, died July 18, aged 76, of carcinoma. He was connected with Walther Memorial Hospital since its founding, serving as chief of staff, president, and recently elected president emeritus of the staff. He had recently been made a member of the "Fifty Year Club" of the Illinois State Medical Society, and was a member of American College of Surgeons.

CLIFFORD JOHN STRICKER, Marseilles, who graduated at Northwestern University Medical School in 1928, died, July 23, in a Los Angeles Hospital, from a throat ailment. He was 47 years of age. He was a past president of the LaSalle County Tuberculosis Sanitarium and at the time of his death, president of LaSalle County Medical Society.

GEORGE ULYSSES WASHBORN, Peoria, who graduated at the Hahnemann Medical College and Hospital, Chicago, 1902, died March 14, aged 68, of coronary thrombosis and carcinoma of the prostrate.

"FOR THE COMMON GOOD"

The Mercer County Medical Society called a special meeting August 4, to hear Fred V. Hein, Ph.D., consultant in health and fitness, Bureau of Health Education, American Medical Association, Chicago, discuss "Physicians and Schools." This lecture was arranged through the cooperative policy of the Bureau of Health Education, AMA, and the Educational Committee of the Illinois State Medical Society whereby any AMA staff member who appears in Illinois towns clears the request with the Educational Committee. The latter then notifies the County Medical Society concerned. In some instances the County Medical Society arranges meetings of Civic groups to hear the AMA staff member.

Bill Dozier, new Public Relations director for the Alabama State Medical Association, visited the Chicago Office of the Illinois State Medical Society recently where he consulted with Dr. James H. Hutton and Mr. John Neal, Chairman and Executive Secretary, Committee on Medical Service and Public Relations, Mr. James C. Leary, Public Relations Counsel, and Ann Fox, Secretary of the Educational Committee.

Mrs. Walter Shriner, Springfield, President, Woman's Auxiliary, Sangamon County Medical Society, visited the Chicago Office recently, conferring on the Auxiliary's plans to staff the Exhibit of the Illinois State Medical Society during the State Fair, August 13-22.

Richard B. Capps, Chicago, and his paper on "Infectious Hepatitis", presented before the 1948 Annual Meeting of the Illinois State Medical Society, made the August issue of Science Illustrated.

Paul Jones, Director of Public Information, National Safety Council, in a letter June 30 said thanks to the Educational Committee for using their safety slogans in its *Health Talk*. Mr. Jones said "we are grateful and flattered."

Mr. A. H. Lancaster, Superintendent, Dixon Public Schools, Dixon, in July asked for 250 copies of the *Health Talk* entitled "What is the Health Future of Your Child" for use in the schools.

The West Virginia State Medical Journal in August editorialized the *Health Talk* on "Vacations" and reprinted it in full.

Mrs. Charles W. Sewell, Administrative Director, Associated Women of the American Farm Bureau Federation, requested 100 copies of the *Health Talk* on Undulant Fever, fifty of which were to be given to the State Leaders in the Regional Training Schools. The remainder was to be distributed through their Livestock Department.

Mr. Joseph F. Donovan, Executive Secretary, Santa Clara (California) County Medical Society, on July 16 requested copies of material released through various Committees of the Society, and complimented "The Doctor and His Medical Society," the pamphlet which was his source of information.

A Bouquet to Marion County for Something New in Postgraduate Conference Publicity! — On July 15 Dr. Max Hirschfelder, Secretary, Marion County Medical Society, sent out a letter to the members in the Seventh District of the Illinois State Medical Society announcing the Postgraduate Conference for the District. In August a second letter was mailed. This sincere effort to stimulate interest and good attendance at the Centralia Conference, September 16, deserves special commendation. It was good promotion and excellent publicity. The first letter follows:

To the physicians of the
Seventh District of the
Illinois State Medical Society

Dear Doctor:

Take a pencil and circle Thursday, September 16, right now!

This is your splendid opportunity given by the Illinois Medical Society to learn some new things in a post-graduate medical conference held in Centralia, September 16, in the afternoon and evening.

You know that these post-graduate conferences, which are under the auspices of the Post-graduate Educational Committee of the Illinois State Medical Society, are especially designed to keep the general practitioner of the smaller towns up to date with all the developments of modern medicine.* The Marion County Medical Society, who is sponsoring the program for this year for Seventh District, is making every effort to make this a splendid meeting, from a social, as well as a professional standpoint. There will be a complimentary luncheon. The dinner in the evening will be $2.50.

You will be kept informed about the exact program featuring Chicago and St. Louis speakers.

Right now, make a circle around September 16, and keep it open!

You will enjoy the meeting.

Very truly yours,
Max Hirschfelder, M.D., Secretary
Marion County Medical Society

Lectures Arranged Through the Educational Committee of the Illinois State Medical Society; Charles P. Blair, Monmouth, Chairman:

Charles N. Pease, Chicago, South Edgebrook Woman's Club, Chicago, November 22, on Spastic Paralysis.

W. W. Bolton, Associate Director, Bureau of Health Education, American Medical Association, William Howard Taft P.T.A., Chicago, January 17, on Good Health Habits for Teen Agers.

Howard M. Sheaff, Oak Park, Berwyn Woman's Civic Club, January 18, on Your Heart is Worth Protecting.

George A. Hellmuth, Chicago, Young Mothers' Club of Bryn Mawr, Chicago, January 24, on Your Child's Heart.

Lectures Arranged Through the Scientific Service Committee of the Illinois State Medical Socity; Robert S. Berghoff, Chicago, Chairman:

B. C. Kilbourne, Chicago, Fulton County Medical Society in Canton, September 17, on Fractures of the Hand.

Louis E. Limarzi, Chicago, Effingham County Medical Society, in Effingham, September 23, on Hematologic Disorders of Interest to the General Practitioner.

Carlo Scuderi, Chicago, DeKalb County Medical Society, in DeKalb, September 28, on Backache from an Orthopedic Standpoint and Its Treatment, illustrated with slides.

Harold A. Sofield, Chicago, Kankakee County Medical Society, Kankakee, October 8, on Treatment of Fractures of the Femur.

John Vonachen, Peoria, McDonough County Medical Society in Macomb, October 22, on Pediatric Problems with Special Reference to Infant Feeding, illustrated with slides.

Louis Limarzi, Chicago, DeKalb County Medical Society, October 26, on Diagnosis and Treatment of Common Blood Disorders.

Postgraduate Conferences Arranged Through the Postgraduate Education Committee of the Illinois State Medical Society; Robert S. Berghoff, Chicago, Chairman:

District	Status
First	Not Determined
Second	Not Determined
Fourth	Not Determined
Fifth	Pekin, October 1948 Springfield, March 3, 1948
Sixth	Carlinville, cancelled Quincy, sometimes in Spring
Seventh	Centralia, September 16
Eighth	Not Determined
Ninth	Harrisburg, September 22
Tenth	Duquoin, latter part of March or first of April
Eleventh	Not Determined

TB, 1900-1946

The greater average length of life means a greater number of years lived. It might be interesting to calculate to what savings the increase is principally due. The disease tuberculosis furnishes one of the best examples. In 1900 is was easily the leading cause of death. The mortality rate was 195 per 100,000 population. Forty-six years later, in 1946, the total number of deaths from the disease during the year was about 50,000, and the rate had dropped to 36. Had the 1900 rate still held, the number of deaths would have been 273,000. The saving of life in that year was therefore 223,000. For the total 46-year period it has been calculated that approximately 5,000,000 lives were saved.

Allowing for increasing population, decreasing death rate, and average ages at death from tuberculosis and all causes, it is clear that between 1900 and 1946 many millions of years were lived that would not have been lived had the mortality rate for tuberculosis in 1900 been maintained.

The saving of life is not the only saving to consider. For every person who dies of tuberculosis in any one year, about four are alive and seriously ill with it. Using the same figures as before, and subtracting the calculated cases from the total that would have existed in 1946 had the 1900 rate prevailed, we find a saving in that year alone of 892,000 serious cases. Quite comparable calculations could be made for other diseases. —Esmond R. Long in *Science*.

Historians (Continued)

Union County: — Dr. E. Vincient Hale, 211½ S. Main St., Anna, Illinois
Vermilion County: — Dr. A. R. Brandenberger, 106 N. Vermilion, Danville, Illinois
Wabash County:
Warren County: — Dr. Charles P. Blair, 102 S. 1st Street, Monmouth, Illinois
Washington County: — Dr. George Klostermann, Hoyleton, Ill.
Wayne County: — Dr. Kenneth O. Hubble, Fairfield, Ill.
White County: — Dr. J. Z. Stanley, Carmi, Illinois
Whiteside County: — Dr. W. H. Perry, Sterling, Illinois
Will-Grundy County: — Dr. Marian K. Bowles, 111 S. Richards St., Joliet, Illinois
Williamson County: — Dr. Frank Murrah, Herrin, Illinois
Winnebago County: — Dr. J. Howard Maloney, Gas & Electric Bldg., Rockford
Woodford County: — Dr. Robert E. Gordon, ElPaso, Illinois

— WOMAN'S AUXILIARY —

Adams County: — Mrs. Walter Stevenson, 230 S. 16th St., Quincy
Bureau County: — Mrs. Charles J. Green, 128 W. Cleveland St., Spring Valley
Cook County: — Mrs. H. L. Schmitz, 10257 S. Leavitt St., Chicago
Henry County: — Mrs. C. Paul White, 733 Henry Street, Kewanee
Kane County: — Mrs. C. O. Heimdal, 68 LeGrand Blvd., Aurora
Knox County: — Mrs. Irving Schipper, 1216 N. Cherry St., Galesburg
Livingston County: — Mrs. A. J. McGee, 205 N. Clinton St., Dwight
Logan County: — Mrs. A. M. Drummy, 110 Peoria St., Lincoln
Madison County: — Mrs. L. L. Grzesk, Granite City
Marion-Clinton County: — Mrs. C. H. Black, 100 West Main St., Salem
Peoria County: — Mrs. Walter King, 103 High Street, Peoria
Rock Island County: — Mrs. G. W. Koivun, 1702 30th Street, Moline
Sangamon County: — Mrs. Walter Shriner, 913 Williams Blvd., Springfield
St. Clair County: — Mrs. Henry H. Hurd, 72 Country Club Place, Belleville
Tazewell County: — Mrs. Harold Feldman, 705 S. 5th Street, Pekin
Vermilion County: — Mrs. D. L. Dickerson, 2315 N. Vermilion St., Danville
Warren County: — Mrs. Russell M. Jensen, 303 E. Broadway, Monmouth
Will-Grundy County: — Mrs. George Carlin, 506 Buell Ave., Joliet

MEMBERS AT LARGE

Lawrence County: — Mrs. Frank Arnold, Lawrenceville
Douglas County: — Mrs. O. C. Blaine, Tuscola
Whiteside County: — Mrs. Frank Brodrick, Sterling
Gallatin County: — Mrs. E. W. Burroughs, Shawneetown (now of Houston, Texas)
Perry County: — Mrs. J. H. Edwards, Pinckneyville
Ford County: — Mrs. S. B. Furby, 632 S. Washington St., Paxton
Florence Ave., Oglesby
LaSalle County: — Mrs. T. S. Huggard, 347 W. Florence Ave., Oglesby
Lawrence County: — Mrs. R. Kirkwood, 1608 Power St., Lawrenceville
Clark County: — Mrs. David Illyes, 404 N. Maple Ave., Marshall
Coles County: — Mrs. J. J. Link, Mattoon
Gallatin County: — Mrs. W. F. Stanelle, Shawneetown
Champaign County: — Mrs. W. E. Schowengerdt, 301 E. University Ave., Champaign
Crawford County: — Mrs. B. C. Teasley, Robinson
Champaign County: — Mrs. Willard L. Veirs, 502 W. Pennsylvania Ave., Urbana
Winnebago County: — Mrs. E. H. Weld, Route 2, North Second Road, Rockford

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IT'S YOUR INVESTMENT

"Let me appeal to you as one would to a stockholder in a corporation to be present at all county society meetings. You are investing in this society in the form of the dues. It is your duty as an investor to be present at meetings to see that your ideas are carried out."—W. Bernard Yegge, M.D., Presidential Address, Medical Society of the City and County of Denver.

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